The Builder.

No. CCXXI.

SATURDAY, FEBRUARY 27, 1847.

A FEW days ago we looked down, through a clear sky, on the mighty world of London from the top of Wren's noblest work, St. Paul's Cathedral. In truth, it is an extraordinary sight, and is felt to be so more and more on each succeeding visit. We counsel those of our readers who have not yet enjoyed it; when they are seeking instructive, mind-developing recreation, to wend their way to the "golden gallery" on the summit of the dome, whence they may note, to use a phrase of Leland, "a whole world of things *very* memorable. Look which way they will,—

> "Ten thousand objects hurtle into view,
> Of interest wonderful;"

filling the mind with thought,—almost oppressing it indeed by a multitude of absorbing associations. Provided always, however, that the view be looked upon *with the understanding*. To the barren all things are barren. The mere sight-seer, the gazer with the eye only, will be struck by its immensity, gratified by the novelty and beauty it presents. But those to whom we speak would have in addition a higher enjoyment than this, bounded only by the extent of the knowledge that is within them. No one denies that, "To him who is of a mind rightly framed, the world is a thousand times more populous, than to the man to whom every thing that is not flesh and blood is nothing." A building, which by one visitor may be glanced at and forgotten, inciting no inquiry, inducing no recollections,—will in another, differently instructed, lead to long trains of thought, exercise the mind, strengthen or question previous conclusions, and so carry forward his education.

The extent of modern London is astounding. Towards the east flow out streets, scarcely known to the denizens of the west, seemingly interminable, although the wealth and power of the metropolis are marching westward, as they have always done, and are raising masses of new palatial edifices, far away from the point on which we are now standing. A few centuries ago the Tower of London was a royal residence, and our nobles were clustered about it. Then the river banks,—naturally called the Strand,—became a fashionable site; but these shortly after gave place to localities farther and farther west, and soon, the only lord to be found in the city was the lord mayor.

Contrast the London of to-day with London as it appeared in Queen Elizabeth's time, represented in a well-known old map; and if the difference be not sufficiently striking, endeavour to realize London in the time of the Romans, when (even at the close of their long and prosperous settlement here), it extended only from Blackfriars to the Tower in length, and from the Thames to Moorfields in width. It is curious to trace its progress, still more so to watch the changes in the habits and manners of its occupants which have succeeded one another. Roman London lies below us; in places, many feet; its boundaries defined; the state of the arts therein tolerably well understood; the coins, dresses, and ornaments used by the people, known;—and all owing to the exertions of a once ill-understood and much laughed-at class of men, the "musty" antiquaries. If you know where to look for it, you may still trace the outline of the city as it was when under Roman dominion; you may see some of the walls they raised, the pavements they formed; and people its streets with the men and women of that day. This was long ago; and yet not long enough to destroy the characteristics of a simple tuft of moss, placed in a Roman vase, as a cover probably to bones and ashes, and found in Lothbury only a few years since! The incident seems to us a pretty one, and worth a thought.*

The number of churches clustered together within the limits of the city (seventy-five!), as compared with the parts beyond, is very observable from the position we have taken up. Many of them are full of interest, and well deserve a visit if you have not seen them. Several of them date long before the great fire of 1666, the ravages of which they escaped, and have long stories hanging to them (as have others of more recent date), that throw an additional charm over the time honoured structures. There, for example, in Smithfield (that blot on the modern city shield) close at your feet, is the church of St. Bartholomew the Great, the major part of which belongs to the twelfth century. St. Andrew's Undershaft, in Leadenhall-street, with its tale of evil May-day and the Cornhill shaft, is the resting place of poor John Stow, the chronicler of London; and St. Catherine's Cree-church, where some of the earliest "mysteries," or holy plays, were performed, was rebuilt with a curious mixture of styles, as some writers say, by Inigo Jones.

Allhallows, Barking, in Tower-street, is a very interesting old church; and, going a little farther east, there is the miniature church of St. Peter *ad vincula*, in the Tower, built in the time of Edward I., which furnishes a sad confirmation of many disgraceful chapters in English history.

St. Giles's, Cripplegate, is the burial place of three noted Johns,—John Fox, John Speed, and John Milton. In the church-yard, is a portion of old London wall. Bow church was the scene of most singular events; and indeed there is scarcely one church in the city that is not for some cause noticeable. We must pass them by, only stopping to mention St. Edmund's, Lombard street, because in the church formerly on this site, John Shute, "painter-stainer and architect," who published one of the earliest practical works on the art, called "The First and Chief Groundes of Architecture," was buried. Stow says his epitaph commenced thus:—

> "This monument declares, that here the corps doe lye,
> Of him that sought in science sight to publish prudently,
> (Among the rest of things, the which he put in ure.)
> That ancient practice and profound, that hight of architecture.
> A knowledge meet for those, that buildings doe erect,
> As by his workes, at large set forth, is shewne the full effect.

The observer, situated where we have placed him, will find matter, too, for ample reflection in the works of Wren, which there come prominently forward; and if he be himself an architect, may find consolation under many difficulties in the remembrance of the treatment received by that great artist. The steeples of the city attest Wren's powers as a designer in a remarkable manner. Note their extraordinary variety; the difficulty with which a spire can be made a part of the style in which he designed; the elegance of their proportions; the skill displayed in their construction; and an acknowledgment of the power of the master cannot be refused.

The city, as all know, was greatly improved in consequence of the Great Fire, but would have been much more so if its re-arrangement had been confided to Wren. Look, now, upon its tangled streets, and the pile of ill-constructed and decaying buildings. One might be excused for wishing for a second fire to clear away the seats of ill-health, moral degradation, and consequent crime and misery, which are seen on every side. Ignorance is the fruitful parent of all evil. Let us all steadily aid in the endeavour to dispel it.

We have but touched our subject, not exhausted it. If our readers rebel not against such gossip,—gossip, nevertheless, which has a good intention, we may return on another bright day to the top of St. Paul's.

* Those who would know more of Roman London should read some interesting papers on the subject by Mr. Roach Smith, published in "The Archæologia."

THE ROYAL MEDAL FOR ARCHITECTURE.

Report of the Council of the Royal Institute of British Architects to the General Meeting of the Members, on the designs offered in Competition for the Royal Medal of the Institute, for the Soane Medallion, and on the Essays submitted for the Medals of the Institute for the year 1846.

The Council have to report that, for the royal medal, the subject being a building suitable for the purposes of the Royal Institute of British Architects, eleven designs have been received.

The council deem it proper, in the first instance, to advert to the printed conditions prepared for the guidance of the competitors, and which were issued in May last, as follows:—

"Royal Institute of British Architects,
16, Grosvenor-street, London, 26th May, 1846.

Her Majesty the Queen having been graciously pleased to grant to the Institute an annual medal for the promotion of Architecture, it has been resolved, that it shall be applied to the encouragement of the junior members of the profession by a competition in designs, composed in a style calculated to promote the study of Grecian, Roman, and Italian architecture, and further, that the designs shall be judged of, not only with reference to their merits as works of art, but likewise as to the knowledge of construction they may exhibit.

In order to secure, as far as possible, uniformity in the conditions under which the designs are submitted in competition for the royal medal, it has been determined that the age of the competitor shall be limited to twenty-five years, and that with this limitation the competition shall be open to the profession in general.

The successful competitor will be further entitled to draw upon the treasurer of the Institute for the sum of 50*l.* after his arrival in Rome in the pursuit of his professional studies, at any period within five years from the time of the medal having been awarded to him, upon sending to the Institute a satisfactory study of some existing building, either ancient or modern.

The royal gold medal for the year 1846 will be awarded to the best design for a building suitable to the purposes of the Royal Institute of British Architects; comprising a room for general meetings and lectures, with seats for 350 persons, arranged with a view to the reading of papers, the exhibition of drawings and diagrams explanatory thereof, and for facility of discussion; a council-room for twenty-five members; a library for 10,000 volumes, with suitable depositories for drawings, prints, medals, &c.; a gallery for models, casts, fragments, &c.; an exhibition-room for architectural subjects, and suitable residences for a secretary and a curator.

The cost of the building not to exceed 20,000*l.*

The design to comprise not less than one plan of each story,—two elevations, two sections, and a perspective view.

The scale of the drawings to be one-eighth of an inch to the foot, and to be tinted with Indian ink or sepia only.

DIRECTIONS FOR CANDIDATES.

Each set of drawings is to be accompanied by a sealed letter, containing the name of the competitor

within, and on the outside the same motto as that attached to the drawings; this is to be inclosed in a sealed envelope, containing an address, to which a communication may be sent of the decision of the Institute, and directed, "To the honorary Secretaries of the Royal Institute of British Architects. Design for royal medal (motto).

The drawings to be delivered at the rooms of the Institute, on or before Thursday, the 31st December, 1846.

The Council will not consider themselves called upon to adjudge the medal, unless the designs and drawings be of sufficient merit to deserve that distinction.

GEORGE BAILEY, J. J. SCOLES. } Honorary Secretaries."

In detailing thus minutely the accommodation to be provided in the building, to render it suitable for the purposes specified, and by fixing a limit to the proposed expenditure, it was obviously intended by the Institute to impress the candidates with a feeling that in forming their designs they were expected to treat the subject practically, and direct their efforts to the production of a design adapted to the requirements of an existing working Institution.

They observe with much regret that the well-considered and clearly-expressed conditions of the Institute have been almost entirely disregarded, and that in consequence of the uncalled for magnitude of the rooms, halls, staircases, and other approaches, together with the lavish and injudicious introduction of columnar and other extraneous decoration (in some instances actually unfitting the rooms for the purposes demanded), not more than one of the designs, possessing the slightest pretension to consideration as an architectural composition, could be properly executed for less than double the sum specified.

When the council reflect on the enormous amount of injury occasioned to the public and to the profession from competitors so frequently disregarding the conditions given with respect to the proposed expense of an intended structure, and consequently presenting designs of much higher pretension than could be produced with an honest and conscientious adherence thereto; and when they likewise reflect on the strong reprobation the Institute has had occasion more than once to express on this most irregular and improper practice, they feel that it would ill become the council to recommend to their fellow-members of the Institute to countenance such dereliction from honorable professional practice, even in a competition like the present one, where the public interests are not directly affected. The fact being so apparent entirely precludes the council from recommending to the members of the Institute the awarding of the Royal Medal to either of the designs presented this year.

They regret to be compelled, on grounds which they consider too important to be disregarded, to come to this decision, especially on the first occasion of a competition for so high a distinction as the Royal Medal, and the more so, since the design marked "Quanto rectius hic qui nil molitur inepte," possesses a high degree of merit, and displays much taste and artistic talent.

The Soane Medallion, for the year 1846, was offered for "The best design for an edifice, suitable to the congregational worship of the Church of England, and capable of accommodating one thousand persons, without galleries. The design to be Roman or Italian, expressive of its purpose both internally and externally, presenting as little obstruction to sight as possible. The chancel to be properly marked in plan and decoration, with reference to its Protestant uses. All the windows to be charged with stained glass. There must be a conspicuous belfry, but the body of the church is not to be surmounted by a dome. The drawings of the elevations and two sections to be to a scale of one-quarter of an inch to a foot,—the plans and perspective view to one-eighth of an inch to a foot, and tinted with Indian ink or sepia only."

It was further notified that the competition is not confined to members of the Institute, and that the council will not consider themselves called upon to adjudge a premium, unless the drawings be of sufficient merit to deserve that distinction."

Two designs have been received, No. 1, marked "Utile dulci." 2, bearing the device of a Scale and pair of Compasses.

With respect to these two designs, the council most reluctantly observe that they do not consider either of them as deserving of the reward offered.

Three Essays have been received "On the adaptation and modification of the orders of the Greeks by the Romans and Moderns."

No. 1, with two drawings—motto—"Hæ tibi erunt artes." 2. Device "⊕." 3. "Entablature."

The council are of opinion that the essay marked by the motto "Hæ tibi erunt artes," is distinguished by considerable research and knowledge of the subject; the style is clear and unaffected, and the reasoning good. The council consider that the treatment of the subject is somewhat too historical, and that not sufficient attention has been paid to the various social causes which operated in effecting the modifications of the orders. The council are of opinion that this essay stands first in the order of merit, and is well deserving of the medal of the Institute.

The essay marked "⊕" evinces considerable study and able treatment of the subject,—the council therefore recommend that a medal of merit be awarded to this production.

For the medal offered by the Institute for the best essay on drainage, viz.:—

"On the best system to be adopted with regard to the arrangements for the thorough drainage of a town house, and of a nobleman's mansion and offices in the country, respectively. Comprising the general arrangement for carrying off the waters and sewage, the sizes and most convenient forms for the drains or conduits, the requisite fall, the description of material to be employed, and the several precautions for the prevention of damp, smell, and passage of vermin;—to be accompanied by block plans and details,"—

One essay, accompanied by two plans, marked "Hygeia," has been received.

On a careful perusal of the essay, it appears that the author has not treated the subject in the terms of the programme; that he has neglected the main subject proposed, and altogether omitted those details to which his attention was directed by the published particulars. The writer has shewn much diligence, and some knowledge of the matter on which he has treated, but this also is in too general a manner, and upon points not properly within the scope proposed by the Institute.

Under these circumstances the council cannot recommend the medal to be awarded to this production.

February 22nd, 1847.

INSTITUTE OF BRITISH ARCHITECTS.

ADAPTATION OF THE ORDERS OF THE GREEKS BY THE ROMANS.

AT an ordinary meeting, held on the 22nd inst., Mr. S. Angell, vice-president, in the chair, various donations of books and prints were acknowledged, and the Foreign Secretary read a letter from Signor Bolsato, of Venice, containing some remarks on the state of architecture there. The writer said that, surrounded as they were by the works of celebrated architects of past time, their chief efforts were directed to the maintenance and restoration of those monuments. The new constructions, instead of aspiring to rival the existing buildings, displayed a simplicity and nudity characteristic of the age; and he remarked, that such was the meanness of employers, that architects were sometimes *obliged to imitate the works of the middle ages:* generally, however, he was glad to say the works of pure Italian architecture were adopted as models.

This remark seems to us not uninstructive when properly reflected on.

The chairman having adverted to the completion of the catalogue of the books and works of art belonging to the Institute, a vote of thanks to the honorary secretaries, for the care they had bestowed on the preparation of it, was passed.

The foregoing report of the council on the designs submitted in competition for the medals offered by the Institute, was then read. The sealed letters which accompanied the successful essays, on the adaptation of the orders of the Greeks by the Romans, being opened, the author of the first was found to be Mr. J. W. Papworth, and of the second Mr. James Bell.

Dr. Bromet, in a letter to the honorary secretary, gave an account of certain vases inserted in the thickness of the walls, and the quadripartite groined vaulting, of the Choir of St. Martin's Church, at Angers, and supposed by the architects of that city to have been employed for increasing the sonorous property of the choir, in a similar manner as the "Echeia," described by Vitruvius, are said to have increased the sound of theatres.

These vases were described as of grey baked earth (still in sonorous condition) 12 inches deep, 10 inches in extreme diameter, and from 1 to 3 inches at top and bottom. Their mouths are flush with the face of the walls and vaulting, so that when seen from below they appear to be nothing more than small holes for ventilating purposes. There are three in each cell of the vaulting, and these are placed as if at the points of a triangle having its apex towards the intersection of the groining, while the vases in the side walls are in a horizontal line—all being at some feet from one another.

Mr. Donaldson remarked, that when he was abroad he had taken much pains to find remains of the vases described by Vitruvius, but did not succeed in doing so in any one case. Mr. Banks discovered them in one instance, but he was not aware that any one else had done so.

Mr. Russell, who was to have completed his paper on the acoustic arrangement of rooms, not being present, Mr. Papworth read the essay to which the medal of the Institute had been awarded.

Mr. Papworth commenced his paper by arguing that Hellenic art when introduced by Cossutius at Rome was corrupted by the influence of a previous style, in the same manner as the architecture of Alberti was degraded through a Gothic feeling into the Elizabethan, the Renaissance, and the Tedesche variations. He then treated of the remains of the Etruscans in art, repudiating the testimony of their vases, and holding that they exercised little influence on the early style of the Romans, which he considered to be Alban or Latin: he used that term to denote the simplest order of classic architecture, gradually superseded in Rome by the Ionic and triglyphed Doric. In justification of a table which dictated the employment of Corinthian columns only for a height of 50 feet, and gave average heights to each order, ending with only 11 feet allowed to the Latin Tuscan, the author appealed to several tables of calculations, which showed that, according to his formula, passages of equal widths between pairs of columns of each order of one diameter, demanded lengths of architraves not exceeding the powers of simplest mechanical construction, and greatest when capping highest columns; whereas the usual acceptation of the directions of Vitruvius absurdly tended to shew, that greatest lengths of architraves would seem most consistent with lowest columns, although the ancients always expected narrowness of intercolumniation and slimness of pillar to accompany each other.

The most important modifications made by the Romans, while retaining the scientific conventionalities of the Greeks, were in the proportions of their plans, and in the arrangement of their columns, in the proportions of their entablatures, and in the contour of the moldings, in the use of square columns often allowed to be predominant, and in debasing the circular pillar to a mere pilaster, and in the practice of supercolumniation: and they adopted the Eustyle intercolumniation, and the pseudodipteral and hypæthral arrangements.

Reference was made to a drawing exhibiting a moiety of the same building in each style, entering into a comparison of the different results accompanying various coincidences; and stress was laid upon the sentiment of a rectangular and statuesque simplicity visible in nearly all Greek edifices, in opposition to that of curved and picturesque grouping in the enlarged sphere of action of the Roman imperial artists.

The author defended the revivalists for establishing a standard for each order, on the ground that they were justified in suspecting all the antiques (of which they really saw very little) to be barbarous, and in trying to bring them to a correspondence with Vitruvius; each publishing his own idea of perfection, in which the great masters were wonderfully agreed; and he exposed the fault of making their illustrations formulæ, to be applied without change on any occasion, at any height, in any situation, for any purpose. He examined the practice of

the great masters and the pupils in the several modern schools, and mentioned, in a list of their additions to the store of the architect, the use of the niche, of pedestals, of balustrades, of sculpture (of all sorts), as mere decoration; of the araeostyle disposition of the basement and attic stories as features, of spires, and steeples, and bell towers, and of an extraordinary luxury of internal and external architecture.

The paper closed with the observation that, with Chambers, Mylne, Dance, Holland, and Soane expired the race of architects in one style only, but in a style of which they were masters; their successors being condemned to exposure to the caprice of patronage for a command, to summon up the resources of any style to clothe even an impracticable idea; and that the current of taste was undeniably tending toward an art altogether different from that of Greece in its construction, or else to that of Palladio and Chambers.

CHEMISTRY AS APPLIED TO CONSTRUCTION.*

BY PROFESSOR GRIFFITHS.

From the dawn of experimental chemistry to the year 1808, lime was regarded as a simple or elementary earth. Sir Humphry Davy then suspected that it might contain a *metal*, or be a *metallic oxide*, and the manner in which he proceeded to verify this suspicion by the test of experiment presents an admirable specimen of his philosophical skill. It was as follows:—

The metal *mercury*, is *fluid* at all ordinary ranges of atmospheric temperature, and in such state it is capable of exerting affinity for several metals that are *solid*,—silver, tin, and lead, for example,—in forming *compounds* with these, it loses its fluidity. The results are extremely soft, unctuous solids, technically called *amalgams*. Mercury can be boiled or distilled by heat, with nearly the same facility as water can be so treated; and when the metal is *pure*, like pure water, it leaves no residue in the vessels employed during the experiments; but the metals silver, tin, and lead cannot be boiled or distilled at the same heat as mercury, or in other words, whilst it is *volatile*, they remain *fixed*.

Accordingly, if an amalgam of mercury with silver be placed in a distillatory apparatus, a moderate heat will *volatilize* the mercury, whilst the silver will remain *fixed*, and thus an analysis, or a separation of the compound into its two elementary constituents, will be effected.

A *metallic oxide* will not form an amalgam with mercury; but the powerful agency of *electricity* is capable of *reducing* an oxide, or of eliciting its elementary *metal*, which then, in the generality of cases, *can* combine, or form an amalgam with mercury.

All these facts had been ascertained previous to the year 1808, and, therefore, Sir Humphry, in the true spirit of "inductive philosophy," proceeded from the *known* to the *unknown*, with the view of effecting the decomposition of lime.

He selected a piece of pure *lime*, and made in its centre a small cavity to hold a globule of pure *mercury*; he then placed the lime in connection with the positive pole of a voltaic battery, and the mercury in connection with the negative pole, to complete the electrical circuit. In this arrangement the mercury gradually lost its fluidity, as though it were amalgamated with a known metal, but no such element being present, the phenomenon of amalgamation could only result from the elimination of an *unknown* metal from the lime.

The new amalgam was then carefully removed into a small distillatory apparatus, constructed of a glass tube, filled with the vapour of pure *naphtha*, a substance containing no oxygen, and which experiments, with potassium and sodium,—the metals of the alkalies potassa and soda,—had taught Sir Humphry would protect or varnish such readily oxidizable elements from the action of the atmosphere, and some other sources of oxygen.

Upon the application of heat to the part of the apparatus containing the amalgam, the mercury volatilized or distilled, whilst a fixed substance, having a silvery lustre, remained; in fact, it was a *true metal*, evidently *educed* from the *lime*; for when heated in the air, it instantly kindled, and the *result* of the combustion was pure *lime*, *produced* by the union of such metal with the oxygen of the surrounding air.

The new metal was accordingly named *calcium*, in allusion to its source (*calx*), and *lime* was named *oxide of calcium*, as, during the formation of the amalgam, oxygen had evidently been expelled from the lime by the agency of the voltaic battery; and the newly-educed substance, when heated in contact with *oxygen*, produced *lime*, chemically the same as that in which for ages it had remained concealed.

It is probably correct to state that no experimenters excepting Sir Humphry Davy and his assistants, at the Royal Institution of Great Britain, ever saw *calcium*, and this on account of the great difficulty and expense attendant upon the process for its eduction, but all chemists agree in regarding *lime* as its *oxide*, because the above direct evidence of the existence of calcium was followed up and corroborated by indirect evidence of the most satisfactory nature: this fortunately admits of explanation in a very few words.

All pure metals have an affinity for the non-metallic element *chlorine*; the resulting compounds are termed *chlorides*, and it is found upon presenting the *generality of metallic oxides* of known composition to *chlorine* that they are decomposed, *oxygen* is expelled from them, and *chlorides* of their respective *metals* are *indirectly* produced, exactly similar in their chemical properties to those which are *directly* produced, by the presentation of the pure metals to pure chlorine.

Lime, or *oxide of calcium*, acts, with *chlorine*, in conformity with this general law, *oxygen* being expelled in true and definite weight, whilst the *chlorine* combines in its stead with the *metal*, producing *chloride of calcium*.

It would be pedantic, and also inconvenient not only for the chemist, but for the architect, the builder, and every practical man, to speak in strict accordance with chemical nomenclature, and say *oxide of calcium*; accordingly those who work in the laboratory, and those who design and construct its walls invariably call the extraordinary compound by its universally known name of *lime*. For the sake of euphony in chemical language, the term *calcia* might be adopted, the terminal letter *a*, as in the case of potass*a*, sod*a*, alumin*a*, silic*a*, bary*ta*, strontia, magnesi*a*, and lithi*a*, implying the fact of oxid*a*tion: but leaving opinions regarding names, and proceeding to experiments upon things, it is an established truth, that twenty parts by weight of *calcium* and eight parts by weight of *oxygen*, are found in twenty-eight parts by weight of *lime*, and it is a substance of inestimable value to the chemist, architect, engineer, operative, and artist.

Lime, *quicklime*, or *live lime*, is seldom if ever presented by nature, excepting in volcanic districts, and there only in very small quantity, apparently resulting from the action of volcanic heat upon limestone, or other calcareous compounds, or probably from the combustion of the metal calcium in subterranean recesses.

There are many kinds of limestone, and by submitting these to a strong artificial heat, as in the common process of "lime burning,"—the theory of which will be examined in the sequel—abundance of lime, sufficiently pure for all practical purposes, may be obtained: therefore an examination of its leading chemical characters may now be entered upon.

For all practical purposes, the weight of a cubic foot of pure water at the temperature of 62 degrees may be taken at 1,000 ounces avoirdupois. This is the standard to which the weight of a similar bulk of any other liquid or solid substance can be referred; and in the case of *lime*, a cubic foot of it will generally weigh 2,300 ounces, so that it is nearly twice as heavy as water, or the fact may be expressed thus, the inherent particular weight or *specific gravity* of *water* being = 1,000, that of *lime* is = 2,300.

There is no mystery whatever regarding the subject of *specific gravity*; on the contrary, it simply consists in ascertaining the weights of equal bulks of different liquid and solid substances, in reference to water as a standard of *unity*. This is extremely important in most branches of practical science, and in many instances, when accurate tables of specific gravities are once constructed, the deviation of a substance from the exact specific gravity that it should possess, immediately points out to the experimenter, that it is not absolutely or chemically pure.

Lime is excessively infusible, it shews no tendency to pass from the solid to the fluid state in the most intense heat of a furnace fire; if it be subjected to the far superior heat of the voltaic flame, it then slowly and imperfectly melts, so that for all practical purposes, lime may be regarded as infusible when heated *per se*. If lime be mixed with other substances that are popularly called *earths*, then upon exposure to the heat of a furnace, it facilitates their fusion in a very remarkable manner, it combines with them forming vitrifiable compounds, hence the extreme utility of lime as a cheap and powerful *flux* in many operations of practical chemistry, but particularly in the operation which relates to the reduction of iron from the clay iron-stone.

This ore contains clay, and other earthy matters, in combination with carbonate of oxide of iron; it is therefore first of all heated to redness, or "roasted," to expel the carbonic acid, and leave an oxide of iron; this is mingled in due proportions with coke and limestone, and then subjected to the intense heat of a "blast furnace." The carbon of the coke exerts affinity for the oxygen of the oxide, and the iron is liberated or educed; but this iron would immediately burn, or return into the state of oxide, by combining with a portion of the oxygen of the blast of air, so that the operation would be futile, did not the lime of the limestone at the same time combine with the clay and other earthy matters, to form an extremely fusible glass, which envelopes and protects the globules of newly-reduced iron from the oxygen of the blast, and permits them to sink down and accumulate in the lower part or hearth of the furnace, from whence at due intervals the molten iron is run off into moulds.

The scoria, or "slag," produced by the lime when withdrawn from the furnace and cooled, is of very little value, excepting for the construction of rude fences, and for repairing roads; but as it has an exceedingly sharp vitreous fracture, it is scarcely admissible for the latter purpose.

When a fragment of lime is held in the pale flame of a spirit lamp, or, better still, in the pale flame resulting from the rapid combustion of oxygen and hydrogen gases; as the lime becomes highly heated, an intense white light is evolved; but the lime undergoes no chemical change in this experiment, it merely volatilizes or *sublimes* to a slight extent, and its vapour, when condensed upon a cold surface, forms a white solid *sublimate*, which is identical in composition with the fragment of lime from whence it ascended. The experiment presents an example of the phenomenon called *ignition*, which, chemically defined, implies the evolution of light from a solid substance when its temperature is raised, and its chemical nature unchanged.

The light evolved by the *ignition* of lime rivals that of the sun in its intensity and purity; it admits of refraction by a glass prism into the seven primary, or prismatic colours of solar light, and in the "lime light," as it is now popularly called, there is no excess of the yellow ray, consequently, it is admirably adapted for artificial illumination, whilst the artificial light, derived from the more ordinary sources of oil, wax, tallow, spermaceti, and gas, contains a considerable excess of the yellow ray. Thus an apartment exquisitely finished in the beautiful colours of decorative art displays them all during the day time as they were intended to be displayed by the artist, but upon artificially illuminating the apartment, an effect that he never contemplated is very frequently produced by the yellow ray changing, or modifying, all the colours, and especially some of the blue colours to various shades of green.

Water is a compound of oxygen and hydrogen gases, and in a small quantity it admits of ready decomposition by voltaic electricity, so that both these gases may be collected and burned to reproduce water. Now, if it were possible to decompose a large quantity of water at a cheaper rate than by electricity, the *combustion* of its gaseous elements, conjoined with the *ignition* of lime, would probably supersede most methods of artificial illumination; *for*

* See p. 69, *ante*.

the "lime light" is so pure and intense, that all common flames placed in its rays are thrown as dark *shadows* upon surrounding objects.

If a given weight of lime be placed in a glazed earthen plate, and set under shelter from rain, yet freely exposed to the air for a few days, and then replaced in the balance, it will manifest a considerable increase of weight; and if it be afterwards transferred into a clean dry Florence flask, and then its bulb gently heated over the flame of a lamp, an appearance like dew will be observed in the upper part, or neck, of the flask: the theory of this experiment is readily explained.

Even in the driest weather the air contains the vapour of water, and for it, lime has a strong chemical attraction, consequently, increases in weight by exposure; then upon subsequently heating the lime the water vaporizes and condenses into the liquid form within the upper, and colder part, of the flask.

If the lime be exposed to the air for many days it will increase in weight from another cause,—this will demand future attention,—but the above simple experimental fact of the absorption of water, points out to the architect and builder the necessity of placing lime in perfectly closed vessels, if it be required to remain as "*quick*-lime."

If the bulb of a mercurial thermometer having a long range of scale or graduated to 620 degrees be thrust into a heap of quicklime, it will indicate a certain temperature which for the sake of example may be 60 degrees; if the instrument be removed, its bulb carefully wiped and then plunged into a bucket full of water, it will indicate the same temperature. Let the water be suddenly thrown upon the lime, which will rapidly imbibe it by capillary attraction, and then in the course of a few seconds the individual lumps of lime will swell, crack, and crumble asunder, whilst a copious volume of vapour arises from the *slaking heap*, and now upon thrusting in the bulb of the thermometer, it will probably indicate a temperature not far below 500 degrees. The operation of "slaking lime" is so very common, that it rarely excites attention, but its close examination by the chemist reveals an extremely curious and important fact.

Why should two substances of the same moderate temperature, or familiarly speaking, *cold* become *hot* when mixed together?

Many practical men, if they happen to condescend an answer to such an apparently simple or trivial question, will say, "because the lime has been well burnt, and has plenty of fire in it." But this will not satisfy a chemist, and it is only after a variety of accurate experiments that he can give a true explanation of the phenomenon, for it is a phenomenon, although the term may be deemed too grandiloquent when applied to such an everyday occurrence. Divested as far as possible of technicalities, the explanation runs thus:—Water in its ordinary liquid state contains a certain amount of heat, which being inappreciable by the thermometer, is called *latent heat*, and when water changes from the liquid to the *solid* state, as, for example, in freezing, this *latent heat* being no longer required to maintain the new physical state of *ice*, is therefore expelled, or becomes *sensible heat*.

When water is suddenly thrown upon lime, its immediate disappearance within the lumps of lime is due to an attraction purely mechanical, or the capillary attraction of their pores, The two substances being thus brought into close contact, then chemical attraction or affinity commences between them, and during their combination the lime actually *solidifies* the water, whose *latent heat* of original liquidity being no longer required, escapes as *sensible heat*, which even raises a certain portion of the water in the form of vapour, or steam.

The lime thus *slaked* or *hydrated* is materially increased in bulk and weight, but feels perfectly *dry*, for the water is only *solidified* by being deprived of heat, it is *not decomposed*, and if a portion of this slaked lime be heated in a flask as already directed, the chemical affinity between the two substances will be overcome, the solid water will gain heat to assume the *liquid* state, this will gain more heat to assume the *vaporous* state and ascend to the upper part of the flask, which being cold, will deprive the vapour of part of its heat or condense it into the state of liquid water containing a definite amount of *latent heat*, and if this liquid water be again solidified the *latent heat* will be expelled as *sensible heat*.

All practical men are aware that it is rather dangerous to slake large quantities of lime near wooden sheds, stacks of timber, or heaps of shavings, for the evolved heat may become sufficiently intense to cause the inflammation of these combustible materials, and if the lime be extremely "quick" it is occasionally dangerous to stand near the slaking heap, for the rising steam carries up an acrid dust of lime which is extremely irritating to the lungs, whilst very frequently particles of lime are violently projected from the expansive force of the steam within the heap: such particles striking the eye might deprive it of sight, not only by mechanical force, but by chemical action on the cornea, for lime exerts a caustic or corroding power upon most organic bodies.

The heat evolved during the slaking of lime in closed iron cylinders, has been proposed and even introduced for warming apartments and cooking food, but very little can be said in praise of such *calcareous* warmth and *al fresco* cookery.

The addition of more water to lime than is absolutely essential to the formation of its definite *hydrate*, produces a semi-fluid, practically known as *cream* or *milk of lime*. This chiefly consists of lime in a state of mechanical suspension throughout the water, and upon leaving such mixture at rest for a short time, the lime will precipitate to the bottom of the vessel in which the experiment is conducted, whilst a perfectly transparent, colourless liquid, will occupy the upper part. This liquid is not pure water, but an aqueous solution of lime, commonly called *lime-water*, and although containing only a very small quantity of lime, it exerts a powerful alkaline action upon the generality of organic matters, and there is a very curious chemical fact, presented during the formation of "lime-water," namely, that the *colder* the water the *more* lime will it actually dissolve: thus water at 33 degrees, or near the freezing point, will dissolve exactly twice as much lime as water will do at 212 degrees, or its ordinary boiling point.

Lime-water for experimental purposes is always formed and kept in green-glass bottles accurately stoppered, and it will remain transparent and colourless as water. Let a portion of it, say a quarter of a pint, be decanted into a perfectly clean and dry Florence flask, the neck of which must then be closed by a perfectly clean cork, having a slit or groove cut from its upper to its lower part, large enough for a small crow-quill to pass through; fold a strip of woollen cloth four or five times around the neck of the flask, to form a non-conducting handle, by which it may be held over the flame of a spirit or argand lamp; or suspend it in such position by a wire, without the cloth if more convenient; allow the bulb of the flask to warm gradually, the lime-water will soon boil, steam will rapidly escape through the groove in the cork, and the originally transparent colourless lime-water will become milk-white from the deposition of lime, thus illustrating the fact of that substance being less soluble in hot than in cold water.

Reference will be made, in the course of a few more paragraphs, to lime-water, and a change that it undergoes without the application of heat; therefore the uses of "cream of lime," which consists of mechanically suspended and chemically dissolved lime, may be now detailed. When "cream of lime" is kept of an uniform degree of semi-fluidity by constant stirring or "rousing," it is an invaluable "wash" for old walls, as, on account of its causticity, it effectually dissolves, or destroys, all organic filth that may be adherent to them; at the same time a peculiar odour, somewhat resembling that of impure "hartshorn," is very frequently exhaled from the walls thus "lime whited." Old walls, especially of stabling, contain a large proportion of ammoniacal compounds. *Ammonia* consists of nitrogen and hydrogen gases; organic matters, especially those of the animal kingdom, contain the same gases, generally in addition to oxygen gas, and the element carbon.

When organic matters, so constituted, run into putrefaction, a portion of the nitrogen and hydrogen assume new affinity, and produce *ammonia*, at the same time a portion of the oxygen and carbon produce *carbonic acid*; these newly formed compounds then unite to produce *carbonate of ammonia*, or "volatile salt," which the walls receive; and when they are lime-whited, the lime, by its superior affinity for the carbonic acid, unites with it to produce *carbonate of lime*, whilst the ammonia is expelled as a pungent vapour, having the odour of "hartshorn," because it is actually existent in that well-known stimulant. For the cream of lime to be active in destroying organic filth, and decomposing ammoniacal compounds, it must be formed of *quick-lime*, and applied to the walls immediately. One simple test of its fitness is to place a slice of the yellow turmeric root in a portion of it: the yellow should become reddish brown. Another, and a better test, is to pour a wine-glass full of the "cream of lime" into an ale glass containing half a fluid ounce of "spirit of salt" (hydrochloric acid), diluted with an equal quantity of water; and if no effervescence, like that produced by "soda-water powders," appear, the cream of lime may be deemed fit for use. Generally speaking, workmen are extremely reluctant in applying "lime white" to walls, because it corrodes their brushes (this is a test of its goodness); and for it they will gladly substitute "white-wash." This dries beautifully white, certainly; but old walls, so treated, must be regarded as mere "whited walls, or whited sepulchres," their filth being merely hidden, and not destroyed, by the purity of their coating; because "white-wash" is made of *carbonate of lime*, or *whiting*,—a neutral compound, having no causticity.

In addition to oxygen and nitrogen gases, carbonic acid is invariably present throughout the atmosphere. Now lime, either hydrated, diffused, or dissolved in water, has a strong attraction for carbonic acid, and will soon change into carbonate of lime; this is the cause of the increase of weight, as already noticed, that lime acquires after a protracted exposure to the atmosphere, the first action being its conversion into hydrate, by the absorption of watery vapour, the second action being the combination of the lime of such hydrate, with carbonic acid, to form *carbonate of lime*.

This is also the reason that quick lime, cream of lime, and lime water, all require to be kept out of the contact of air, or they will soon become carbonated, and then instead of remaining or quietly dissolving in dilute hydro chloric acid, they will effervesce, like "soda-water" from the expulsion of the *carbonic acid*. The thin white pellicle or film that forms upon the surface of lime water or cream of lime, when exposed to the air, announces the transition of the caustic lime into the inert carbonate.

CURRENT COMPETITIONS.

We have received information from parties in whom we have confidence, that the invitation to compete for the fever hospital at Bedford is a mere cloak, a London architect having sent in plans and estimates for it, which have been approved by *most* of the committee.

We shall be glad to find that our informants are in error: the result will shew. If, unhappily, the statement be correct, the committee shall hear from us.

Relative to the Army and Navy Club-house competition, several correspondents have directed our attention to a plan which has been circulated of the site of the intended new edifice, on which is marked certain dimensions of "limited" and "unlimited heights," having reference to "rights of light." One says:—"The law on the subject we all know is quite undefined, but in reference to the particular building in question, it may so happen, that from local knowledge, or other means, certain parties may be more in the secret of these rights than the majority of their architectural brethren; allow me therefore to suggest through the medium of your paper, that in the present case, and in others of a like nature, the Institute of Architects should appoint some surveyor to prepare a proper plan, with all particulars in reference to the site of such intended new building, and have the same lithographed for distribution among its members. The successful architect to reimburse the Institute for the cost of the plan."

We should be sorry to see the Institute engaged on any such profitless work. As to the lights, competitors must use their own judgment; the committee, by drawing attention to them, have done perhaps as much as could be expected from them. In connection with

this competition, we have been officially requested to contradict a report that the committee have already fixed upon an architect to be employed. Some members of the committee manifest a great desire that this competition should be conducted and decided in the fairest and most satisfactory manner. Let us urge upon them two important points:—First, that they exhibit the designs for a certain time *before* coming to a decision, and, secondly, that one or more professional men of ability and integrity be called in to assist them in the examination and selection.

FOREIGN ARCHITECTURAL AND COLLATERAL INTELLIGENCE.

Excavations for Antiquities figuring on the French Budget.—The Home Minister at Paris has issued a decision to the effect, that excavations, made for the sake of searching after ancient ruins, are to be henceforth classed amongst the works of *communal utility*, and be, therefore, defrayed (assisted) from the fund of four millions of francs, which the minister is charged to distribute amongst the parishes (*communes*), which will have provided workshops, or other establishments, for the occupation of poor people. In consequence thereof, some excavations have been recently made at Limny, near Serrière (*Loire*), when, at a depth of only 60 centimètres, a splendid public road, and three deep artificial wells were found; the waters of which, however, had dried up, and been diverted by the lapse of twenty centuries. Other proprietors, also, intend to dig at a place where a large *souterain* bids fair for further discoveries. On the making of a new road, two bronze statuettes have been found, which were bought by a Lyons antiquary for 1,800 francs. Numerous silver coins, also, here found, promise a new mine of antiquarian treasure.

Oil Lighting of Paris.—It would seem incredible, but is still so, that only from the 1st of March next, all the public thoroughfares of Paris will be lighted with gas. In the Quartier St. Joseph, for example, oil is still the lighting medium.

The Gothic Church of Ste. Clotilde, at Paris. —Contest between two Systems of Architecture. —Although the love for the structures of the *latter* part of the middle ages is decidedly on the wane in France—those giants of the twelfth, thirteenth, and fourteenth centuries are, deservedly, retaining a large portion of art-favour; a fact best proved by the erection of the above cathedral, decreed by the municipality of Paris, to whom, certainly (with Mr. Arago at their head) retrograde principles cannot be reproached. At this the *Academy* seems to have taken a little umbrage, as will appear from the following utterance, made through the medium of their *Secrétaire perpetuel*, Mr. Raoul Rochette:—"If Gothic architecture—*conjointly* with painting and sculpture, as necessary assistants, under those previous circumstances which have created this *style*—has found its death (?); shall we attempt, in our days, to resuscitate what has ceased to exist for the last four centuries? But, we ask, where are the elements of such unheard-of, in the annals of art resuscitation? Where is, amidst the conditions and circumstances of our present social life, any ground or necessity for so doing? Where is that mighty arm, which may pull back a whole nation to the state of four hundred years previous existence? The Academy cannot believe in those miracles of human will, which would have to triumph over the whole nature of things—and necessarily encroach upon all the æsthetic wants, usages, and impulses of society. She may well admit that a Gothic church or castle may be built for whim or *ennui's* sake, although an *administrative* predilection of the kind would be always a hazardous experiment; firmly convinced, moreover, that a reversion to antiquated types would remain effectless as it is groundless. The Academy think that the *new Gothic*, which has to be as much as possible adapted to the taste of the day—will never exercise the effect of the ancient and real Gothic, sprung from other circumstances, art-wants, and art-tendencies; and that the people, however affectionate to the former, would remain always cold and feelingless, at the sight of these plagiates and counterfeits of something quite antiquated and exploded."

Monument to the Viceroy of Hungary.—The members of Parliament for the county of Pesth have met, and unanimously voted the erection of a monument to H. R. H. the late Prince Joseph—the founder of the Hungarian Museum, the Academy of Sciences, &c. Mr. Kossuth, the leader of opposition, was the mover, and alluded to the difficult task the late Viceroy had to effect any desired improvement.

Work on the Wallhalla.—The large printing firm of Messrs. Cotta, at Munich, have undertaken a work, shortly to be published, which will comprise exact copies of those marble busts and statues of great Germans, contained in the above building, on the banks of the Danube. The images of those great men (some of them of colossal size) may be considered the most authentic, as in cases, where no coeval pictures were at hand, even the seals appended to charters, &c., were called into aid. Where even these were wanting, a tablet was, of course, the only thing available to preserve a great memory. It is known that the Wallhalla was one of the objects which occupied even the youthful years of King Louis of Bavaria, on which account he corresponded with Mr. Johannes Müller and others. It is to be regretted, that the illustrations are to be merely on wood, distributed within the pages of the text.

The Winckelmann Monument—Programme. —The great merits of this original and striking art-critic are being every day more appreciated in Germany, as well as in France—and a committee has been formed at Berlin, to erect a statue at his native place Stendal. It comprises the names of Tölken, Olfers (director-general of the Royal Museums), Professor Rauch and Professor Wichman, whose model of the statue attracted much attention at the late art-exhibition at Berlin, and who has made a present of it to the committee, and H. M. the King, has ordered that the metal for the founding should be supplied from the stores of state. The programme says—that "the committee appeal to the public (*Welt*) *instructed* by Winckelmann's *reforms* in the whole province of art-science, and by his then untried and unequalled introduction of *spirit* and mind in the viewing and appreciating of all the relics of classic antiquity."

Murillo's paralytic at the Piscina.—Field Marshall Soult has sold this splendid specimen of art, being one of the great collection he *made* in Spain, for the sum of 160,000 fr., it is said to some English collector. The French duly blame the general for this questionable deed, reminding him, that he did surely not give so *much* for it, and that it would have been better to leave a picture acquired by dint of national prowess to the National Gallery of his country.

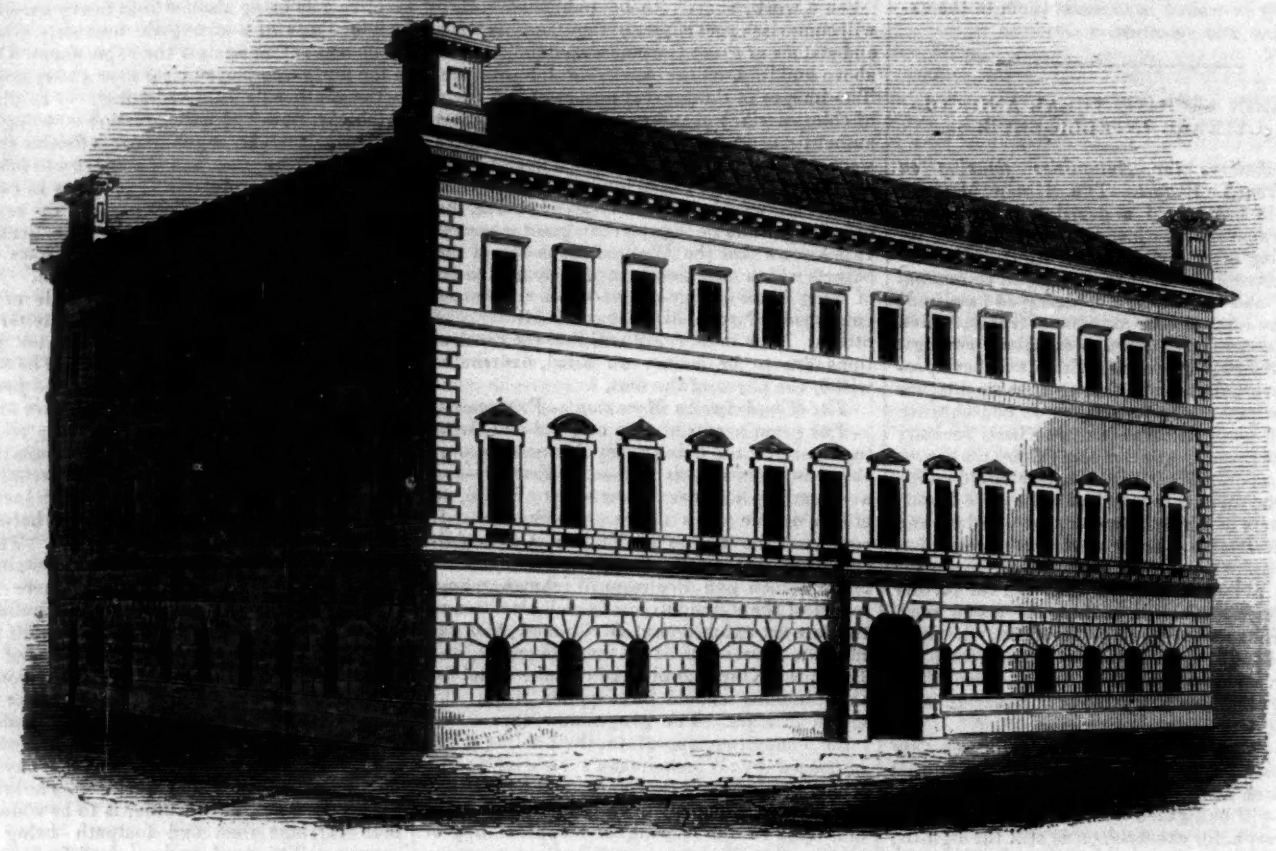
NOTES IN THE PROVINCES.

Plans and specifications have been ordered to be prepared for the erection of a new barrack adjoining Haslar Hospital, at Gosport, for occupation by the Portsmouth Division of the Royal Marines.——The new public bridge to cross the river Thames at Ashton-under-Lyne has been let,—the stone-work to Mr. Lawton, and the iron-work to Messrs. Gimson, Yates, and Ainsworth, of Staley. The bridge will be 50 feet span, and 30 feet wide, and will have two ornamental lamps.——The new church erected at Cradley-heath, near Dudley, was to be consecrated on the 22nd instant.—— For a new church at Lytham, Mr. Talbot Clifton has given the site, with 500*l.* towards the erection.——Another experiment to prove the possibility of extinguishing fires by means of jets of water from street mains without the aid of fire-engines has been tried at Liverpool by the Harrington Water-works Company, in presence of the Government Commissioners of Inquiry relative to the supply of water to the town. The result is said to have been highly satisfactory. "The spot selected," says the *Mail*, "was by no means the most favourable—being at the top of Lord-street, and close to the east end of St. George's Church, a site of considerably more elevation than many of the mercantile portions of the town. Short lengths of hose, with pipes of 7-8ths of an inch in the nozzle, were attached to a stand pipe from the main, and from one up to four of these branches were played for upwards of an hour, the addition of one, two, or three, to the first, appearing to make little or no difference in the respective power of any of them. The quantity of water which they projected was very great and continuous. It completely lashed the east end of the church, and not only went clear over the blockings above the cornice, and on to the roof in heavy volume, but at times ascended to the top of the flag-staff, a height, we should think, little, if at all, short of eighty feet. A great number of persons were gratified by witnessing the experiment, albeit many of them were pretty well drenched by the respective jets being dashed into heavy showers by the force of a strongish northerly wind, which was rather against the experiment. One of the pipes also played clear over a lofty house on the south side of Lord-street. The plan, which combines hydraulic pressure with engine power, is decidedly much more effective than hand-worked engines, and if adopted will afford great and rapid protection to property in cases of fire—especially the lower parts of the town, and that, too, with a large saving of expense." ——The Cubbley National Schools, says the *Doncaster Gazette*, are nearly completed. The whole erections are in the Tudor style of architecture, and in the shape of the letter T. The exterior is built of Everton brick and white stock brick from Newport. The windows have stone mullions with diamond panes, while portions of the exterior walls are ornamented with black headers; and the roof is covered with blue slate. The schools are capable of accommodating nearly 200 scholars. The length within the walls is 90 feet 9 inches, and the width 20 feet, with a partition between the boys' school and that of the girls. These are approached by separate porches, containing closets for cloaks and coats. There are dwelling-houses on each side of the building for the master and the mistress, and built in a corresponding style with other portions of the edifice. The architect is Mr. S. S. Teulon, of London; and the builders Messrs. Lister and Son, of Doncaster.—— The foundation-stone of the new townhall of Doncaster was laid, in French-gate, on the day appointed, namely, Monday week.——The bridge across the Tees, at Stockton, is to be widened, both carriage road and footpath being too narrow. The fund to be raised for the purpose appears to amount to 1,400*l.*——The surveying officers have made their inquiries at Wakefield as to the proposed new market bill. The design is not so much to erect expensive buildings as to open up a central area in "one of the most disgraceful and filthy" parts of the town, full of pig-styes, slaughter-houses, chandlers' factories, &c., and notoriously unhealthy. The expense of substituting such a paved area with sheds, for the present merely four-pillared market cross, with drainage, is estimated at 16,000*l.* The surveyors, however, thought that sufficient provision was not made, or regard had, to sanative improvements in such a locality, which they had examined, and found to be exceedingly ill-drained and ventilated. It was therefore very properly suggested, that further attention should be given to this important subject. The Exchange Buildings in the middle of the town at present form the focus of the corn trade.——A number of turn-out sawyers, lately in the employment of Messrs. Birtwistle, joiners and builders at Bury, in Lancashire, last week waited upon that firm, and made the following proposal:—They would return to their work if Messrs. Birtwistle would discharge all the new hands, and pay 5*l.* to the sawyer's union for using a quantity of saw-mill timber.—The proposal was declined. A saw-mill has been purchased at Birkenhead, and as soon as the weather will permit, preparations will be commenced for the necessary buildings.——The town council of Newcastle have determined on erecting baths and washhouses for the poor of that town. See also "The Gas Movement."

Ventilation of Stables.—Horses are liable to consumption when kept in badly-ventilated stables; and we are informed by Mr. Edwin Chadwick that a discovery was only lately made as to the effect of defective ventilation on the cavalry horses in some of the Government barracks in England; and it is stated that a saving of several thousand pounds per annum was effected by an easy improvement of the ventilation of the barracks near the metropolis.

THE BRITISH AMBASSADOR'S HOUSE, IN CONSTANTINOPLE.

MR. W. J. SMITH, ARCHITECT.



THE BRITISH EMBASSY AT CONSTANTINOPLE.

THE palace for the British ambassador in Constantinople, of which the annexed engraving is a representation, was erected from the designs of Mr. W. J. Smith, architect to the embassy. It was not commenced, we understand, till 1845, and is now completed, so that its progress has been very rapid. Its style, as may be seen, is the domestic Italian, after the same model as the Reform Club-house, in Pall Mall. It is built of white stone, with a slated roof, and is wholly fitted up internally with fine mahogany and *papier mâché*. It stands in the Frank quarter, adjacent to the Russian palace.

Mr. Smith, as some of our readers may remember, made the sketches from which Mr. Burford painted his fine panorama of Constantinople.

The illustration, although, through circumstances not under our control, somewhat inferior to those usually given in our pages, is interesting, as affording evidence of the style in which England lodges her representatives in foreign climes.

ON SOME ANOMALIES OBSERVABLE IN THE EARLIER STYLES OF ENGLISH ARCHITECTURE.

THE current number of "The Archæological Journal" * contains several interesting papers on architectural subjects. By the kindness of the committee and the publisher, we are enabled to transfer to our pages one on some anomalies observable in the earlier styles of English architecture, by the Rev. C. H. Hartshorne.—The main object of the writer seems to be, to shew that what is called *long and short work*, taken by itself, furnishes no criterion of early date.

It has been usual, with those who have made inquiries into the style of our early ecclesiastical buildings, to assign all those exhibiting marks of long and short work to the period of the Anglo-Saxons. Yet it may be reasonably doubted whether construction of this nature, taken by itself, affords sufficient evidence to favour such conclusions: and unless this kind of masonry be found/united with proofs of another character less ambiguous, there is great room for disbelieving such buildings to have been erected before the Norman conquest.

It is indeed not a little remarkable, that the church of Brixworth, a building whose claims to priority of age are better established than most others by historical inference, is entirely deficient in the marks so universally assumed to be decisive of the question.

This church, as it is well known, does not shew the least fragment of this peculiar kind of construction, yet there is perhaps more extrinsic evidence in favour of its age, than most other buildings that can be adduced. The history of its erection seems simply to have been this: that from its site having been fixed upon close to a great Roman thoroughfare, leading from the Watling-street, at Stoney Stratford, through Northampton to Leicester, as is sufficiently indicated by the direct trending of the line, and the etymologies of the places bordering upon it, such as Potterspurry, Alderton, Barrow Dykes, Lamport, Market Harboro', Stonyland, Stony Gate, &c.; and also being on the very edge of a Roman single walled entrenchment, there were already on the spot most of the materials which the Romans themselves had used for building purposes. Within this entrenchment, some kind of building had existed, and the bricks that were employed were found, when the church was in progress of erection, extremely useful to work up with the bad materials already dug. We are told by William of Malmesbury, that Benedict Bishop, on his return from Rome, introduced a new kind of architecture into this country,—what he calls building *more Romano*. Now, in whatever sense these two words are interpreted, I think they will still be applicable to the masonry of Brixworth Church; and this, coupled with the casual passage quoted in Leland's "Itinerary," will go very far to confirm its Anglo-Saxon pretensions; in fact, it is more evidence of an early practical kind than can be brought to bear upon any other building of a Christian character in England.

It is now some years since I became entirely convinced that Brixworth Church presented no proof whatever of being a Roman building. I have examined its foundations, its construction, and the nature of its cements, all of which are totally unlike the substructions, the masonry, and the mortar so invariably adopted by the Romans.

Whilst, however, its Roman claims are completely untenable, it certainly offers very strong marks in favour of an Anglo-Saxon origin. They are not only as convincing as any we may ever hope to obtain elsewhere, but they are moreover capable of being divided into two periods.

It has already been stated that Brixworth does not present any specimen of long and short work; this peculiarity is not visible in any portion of the building. It is desirable to state this distinctly, because, having presumptive historical evidence of being an Anglo-Saxon church, it is deficient in that feature which is accounted the leading characteristic of Anglo-Saxon architecture.

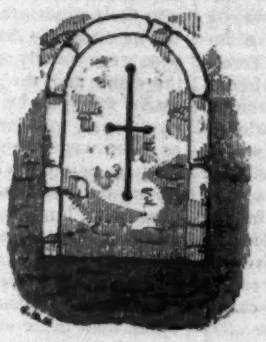
It is not my intention to disprove (for that would be a difficult matter), the title to great antiquity those churches may claim, where long and short coignings are used, but I wish to throw out a caution to inquirers, lest this appearance should lead them to assign all these buildings to the same age.

That they are for the most part early structures there can be no doubt, and this epithet may be even extended above the Norman conquest, if we are justified in applying the words *lapidei tabulatus*, as used by William of Malmesbury in his description of Benedict Bishop's churches, to those towers rising in stages from the perpent blocks of stone that run transversely on their four sides.

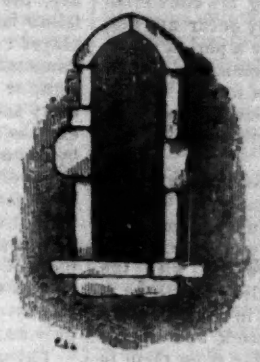
For instance, at Earl's Barton and Barnack,

* Published at the office of the Institute, 12, Haymarket. J. H. Parker, Oxford.

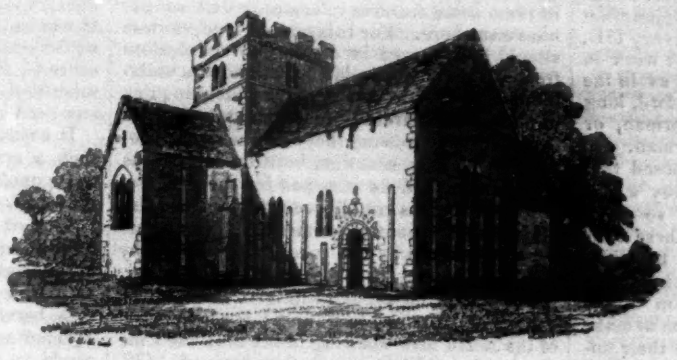
ILLUSTRATIONS OF ANOMALIES IN EARLY ARCHITECTURE.



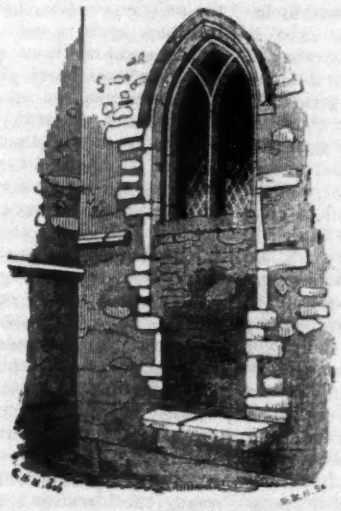
WINDOW, OXFORD CASTLE.



WINDOW, HEADBOURN WORTHY.



STANTON LACY CHURCH.



WINDOW, CAISTOR, NORTHAMPTONSHIRE.

DOOR, STANTON LACY.

his system occurs, at both of which places the owers rise in stages, diminishing as they rise, nd forming separate divisions or stories, arked also by the horizontal bands of perpent one, from which the superior portions of the uilding alternately spring.

This mode of construction was clearly borwed from the Romans, who, as is sufficiently nown, employed bonding courses of brick, nning parallel with the ground, to strengthen ir walls, so that the inferior materials used the intervening space might become more ctually tied together.

The Romans, as may be observed in all their ary buildings now remaining in England, their bonding courses horizontally; the lo-Saxons used them perpendicularly. At nsey there are courses of tile laid flat, at fi intervals; at Earls Barton there are perstones placed upright, also at fixed intervi The object of both was the same; namely, tply the want of good building materials bich materials as would hold them best together; and the English masons, placing these large blocks of Shelly oolite or Barnack rag (for Earl's Barton is supplied with this Shelly oolite from that distance), had merely to fill in the rubble between them, much in the same manner as brickwork is used in timber-framed houses.

The talus table of Colchester castle is geologically of this formation, and, owing to the want of native materials, the architect used the Roman bricks he found in such abundance on the spot, both for coigns and bonds, in the same way as they were used in the castle church at Dover, and in nearly all the town churches of Colchester, and in several of the neighbourhood.

This being, as I conceive, the origin of long and short work, and its primary intention, I come next to consider two varieties that are observable, which shews that, taken by itself, it furnishes no criterion of early date.

Long and short work is, first, that used for coigning; secondly, that used for upright bonding, and appearing like strips on the face of the wall.

Of the former kind there are examples in the towers at Barnack, Earl's Barton, Brigstock, and Green's Norton, and in the nave and chancel at Wittering. Of the latter kind, they may be seen at Barnack, Earl's Barton, and Stowe Nine churches, all in Northamptonshire; also at Sompting, in Sussex, Headbourn Worthy, in Hampshire, and Stanton Lacy, in Shropshire. At each of these four last-mentioned places, the long and short differs from the previous examples at Barnack, Brigstock, Earl's Barton, and Wittering. The difference may be thus described. In the Northamptonshire churches the long and short work is an important member of the angle of the towers, whilst the short stone considerably projects beyond the line of the long one: in the other examples both long and short stones are in the same line.

Of the second kind of long and short, namely, that used for perpendicular bonds,

apparently only ornamental strips, but in reality very essential for the stability of the building, we have numerous examples besides those at Sompting, Headbourn Worthy, and Stanton Lacy. It is to some of these examples that attention shall now be directed.

In the first place, by stating my conviction that the buildings where they occur are not, in reality, churches of so early a period as the preceding ones, although presenting certain marks of resemblance common to each other; and in the next, their resemblance to work of a later, in fact, the early English period, may be readily shewn.

In illustration of this I have selected examples taken from the churches of Headbourn Worthy and Stanton Lacy (see engravings), which shall be contrasted with the masonry of these Northamptonshire churches, as well as with the upper portion of Oxford castle. It will be at once seen that these, although in some measure analogous to parts of Barnack and Earl's Barton, do yet materially differ from them in appearance, whilst they are also the creation of a later time.

For instance, though in Headbourn Worthy we find the perpendicular long and short bonds as at Earl's Barton, they are in conjunction with work belonging to the time of Henry III., or Edward I., that is, long and short work in union with equilateral arches; or as in the uppermost stages of the castle at Oxford, long and short work united with late Norman, or as at Stanton Lacy with earlier Norman.

It might naturally have been supposed that a reference to the Doomsday Survey would have tended to settle a question of so much obscurity as the age of several of these rude and unquestionably early churches. But little that is conclusive is supplied from this source. The precept issued for the direction of the surveyors laid no injunction upon them to make a return of churches, and therefore their notice is extremely irregular, and for this reason no direct conclusion can be drawn, nor can the question be settled by reference to this therefore too unreasonable a supposition, that the friends of those and other orders likewise, should have endeavoured to copy on a smaller scale the ornaments, the decorations, and the mouldings they admiringly observed at the great church of the district? At the present day, the handling of a chisel indicates to his fellow labourers the workman who was employed: the style of a building often shews, by unmistakeable marks in its proportion, its design, or general character, who is the architect; and it is not hoping too much when I express the conviction that we may still obtain, by means of the present practical knowledge so generally diffused on these subjects, if united to a research of the foregoing nature, a clearer insight into, a better classification, and a positive assignment of certain structures to the piety of tenants in capite whose mouldering effigies still lie within the walls themselves, or else to other individuals whose memory may only be preserved by the national archives.

These examples will not unappropriately serve to shew how desirable it is to refrain from drawing crude and hasty generalisations, from attempting to affix precise dates to structures simply because there are found co-existing in them some features in common with similar ones elsewhere. For this reason, then, caution should be observed in coming to conclusions from anomalous or isolated portions of a building, seeing that as yet we have much inquiry to make from careful measurement, as well as from records, knowing that churches were progressive in their erection, built by degrees, as the money could be obtained for the purpose, or as the masons could proceed with their undertaking, frequently commenced by one person and finished by his successor, or built by one, and improved and decorated by another. An instance in proof of this occurs in the church of Stratford in Suffolk; the lower part of the north aisle shewing in the flint-work the name of the builder and the date of 1430, whilst the porch where the inscription terminates is marked 1432. This will at once

animated by kindred feelings, amongst brethren, equally enthusiastic and self-denying, who sympathized and helped in the labour; thus, whilst it constituted a part of their duty, as it were, it became one of their recreations to decorate the religious house where they worshipped; and this again caused them to infuse the same ardour and the same taste at once into their superiors and their dependants.

The materials that were wanting for the purpose were usually at hand, and cost them little; the stone and the marble and the wood were easily wrought by their own tenants, whose unremitted toil they could always command; or when wages were paid they were extremely low, an opinion which is not to be negatived by urging that human wants must always keep pace with human demands and expectations, and that the difference in this respect between different periods is merely in terms of money. For after all the fact is not true; the wants of these men were the wants of nature, less artificial than those of the same class at present: their fare was coarser and simpler, beans supplied the place of wheaten food, their beverage was less stimulating and expensive, and their general habits of life were disproportionably cheaper than those of a modern artizan; added to which, these poor men believed themselves, whilst occupied in such works, to be serving the cause of God and religion, and therefore they submitted to privations and toil with patience and even joy. • • •

It would be unfair to conceal the results of such a system; its defects were apparent in the popular insurrections that from time to time broke out and marked a progressive extension of liberty, in the gradual emancipation of the human mind, and in the naturally inherent right of following up private conviction by private judgment; it is needless to do more than barely allude to what followed. Yet in concluding the explanation I have offered it would be incomplete if I did not add that the spirit of the age was both warlike and devotional at the same time, and whilst a love of

Original Defective

ritual and monastic arrangements, and is it | they lived moreover amongst those who were | is too good-natured.

THE GAS MOVEMENT.

Has the present agitation in favour of the nearest possible approximation to the purity and clearness, and the cheapness and diffusion of the light of day arisen as the natural result of some extensive organization, league, or association, for the express and determined purpose, then the motive to, and the reason of, the simultaneous, sudden, and universal interest and effort in the cause would have plainly manifested itself; but, with the exception of our own reiterated efforts, no vis insita within the range of our experience is sufficient to account for this remarkable phenomenon. The subject of gas-light is evidently at this moment undergoing a complete and rapid revolution: it is labouring in the wholesome throes of a new birth, and is destined soon to assume an altogether novel aspect and economy of distribution. Demands for its reduction in price, its improvement in quality, its more diffusive abundance, are everywhere urged and everywhere forcing themselves into successful antagonism with the state of things as they are, and evolving the germs of the state of things as they will be; and now it is found that even the most preposterous expectations and demands for reduction of price are more than justified, by the revealment of the enormity of the profits that must have been already reaped, and the immensity of the reductions that may yet be profitably made. "If the Gas Company are getting a profit still, at 6s. per 1,000 cubic feet," says a witness, whose evidence before the Government Commissioners we may here adduce,—without, however, being at the trouble to specify or instance time or place on a point of evidence far from being solitary or limited to either place or time,—"they must have realized an enormous profit heretofore at 10s. to 12s. per 1,000 cubic feet." And that many a company has realized such profits at 10s. to 12s., and that all may still realize sufficient, and far more than sufficient profits, not only at 6s. or even 4s. but at 3s. or even 2s. per 1,000 feet has already been clearly proved. "Resolved," in public meeting assembled, says one recent formal petition to Parliament, "that we, the inhabitants of Ashton-under-Lyne, being gas consumers, having attentively listened to the evidence tendered before the Government Surveyors, and that evidence showing that gas *can be produced at less than three shillings* per 1,000 cubic feet, pray that the Ashton Gas Company be restricted to 4s. 6d. per 1,000 cubic feet, and that the gas be manufactured from cannel coal." Too liberal by half, as has been already plainly evidenced at Liverpool and elsewhere. "At Exeter," says one witness, in his evidence before the Commissioners at Southampton, "the present price is 6s., and a new company has offered to supply it at 3s. 8d. per 1,000. Mr. Short has told me that at Sheffield *it was supplied at 2s. 6d.* (!) and many manufacturers considering [probably knowing] *even that to be too high*, manufactured their own!" Moreover, we have already adduced corroborative evidence to much more than this effect from before the Government commissioners at Liverpool, and from all of which it appears that in many districts *coke manufactories are likely altogether to supersede mere manufactories of gas.*—As to the manufacture of the article, by the way, we may here note down a piece of rather interesting intelligence derived from the *Hampshire Independent*, which, interested, as who must not be, with the present progress of events towards the light of a new day, says, "We have been gratified by the inspection of a small gas apparatus, calculated for private use, constructed by Mr. D. Snaggs, ironmonger, of Middle Brook-street. It is now in full operation, and Mr. Snaggs states, that *after deducting the value of the coke*, the quantity of coal daily required for the manufacture of gas enough to supply five burners, from five o'clock till ten, does not exceed twopence! The cost of the apparatus would be 25*l.*; but a very trifling addition would enable it to produce gas enough to supply twenty or thirty more burners; the only alteration being an increase in the size of the gasometer, and an additional retort. The apparatus appears to be admirably adapted for railway stations, gentlemen's mansions, or public manufactories, in places where no gas works exist. It appears, too, to be capable of application for shops with great advantage, if the present charge for gas in Winchester is to be continued."——The inquiry at Southampton progresses; and the evidence goes far to prove the absolute necessity of the "fair competition" which is even already, by anticipation as it were, producing its good fruits. Until the proposed new company was started, the old, and only company, was waxing fat and kicking; for it not only persisted in its "enormous profits," but when any one dared to complain of the abominable quality, the provokingly deficient quantity, or the by no means deficient price, of what they pleased to give, he was replied to by "a man to cut off the pipes." No sooner did their incipient antagonist make his appearance, however, than down came the price from 10s. or 12s. to 6s., and up came the quality, and even the quantity, to par; but such amendments are by no means symptomatic of repentance, and they therefore merit no mercy, and none have they met with, for none have they deserved. The case of the new company appears to prosper.——The high price of gas at Cowes, still no less than 12s. 6d. per 1,000 cubic feet, has roused the indignation of the inhabitants, who were led to expect a considerable reduction in the charge for "this indispensable and only lately afforded boon;" and in a numerous meeting they have embodied their feeling on the subject in a series of rather mild resolutions in the meantime, to be laid before the directors of their company.——The diminished price of gas supplied by the present company at Worcester, namely, 6s. per 1,000 feet,—for which the citizens are indebted not to the present but to the prospective company, who have offered to supply it at 4s. 4½d.,—is already, it is said, leading to an increased and extensive consumption.——Another huge gasometer, to hold 200,000 cubic feet, or if made on the telescopic plan to contain even 400,000 cubic feet of gas, is to be forthwith erected at Manchester by the corporation. It was only last year that just such another addition was made to their enormous, and, as it ought to be in the eyes of all other corporations, their *model* establishment; and as to when that corporation mint will reach its full maturity is a question for the multitude of Manchester in future generations, not for those alone to whom it now gives wealth as well as light.——The capital, a bill for which the Liverpool "Guardian" is applying, is 133,000*l.*; and 3s. 8d. is the maximum price, with 7½ per cent. as the maximum dividend. The present Liverpool "Gas Light Company" is also now applying for power to raise 200,000*l.* of additional capital; the maximum price of its gas being 4s. 6d. with an assured dividend of 10 per cent.——At Cambridge, the gas proprietors have condescended to offer the citizens a reduction of 1s. per 1,000 cubic feet with a promise of more *in futuro*.——A reformation has already actually begun at Newcastle, or at least been something more than merely promised. The price has been reduced from 5s. to 4s. 6d. per 1,000 feet, with a scale of discounts from 10 to 20 per cent.; and the *Gateshead Observer* informs us that "an assistant manager of the gas works has been appointed, and a change for the better has been the consequence." The lamps, however, are said to be still too dim to do justice to the improved quality of the gas. The suggestion which appeared in our pages, to line the upper portion of the interior with mirror has been not only received with favour but almost universally quoted by our contemporaries. Perhaps the Newcastle gas, which now, it seems "need not be ashamed to shew itself," might thus be able to bear the reflection of its own more purified aspect now without a dimming blush.——Down to the year 1839, by-the-by, the price of gas at Newcastle was 10s. per 1,000 cubic feet—more than double the price of its present improved quality! The fear of a worse condition of things leads sometimes to a better.

Isle of Alderney: new Breakwater.—The foundation stone of the new breakwater, or harbour of refuge, was laid on Friday week in the Bay of Crawley. The little island was in universal commotion. A whole ox was roasted for the workmen and the poor in general, and "a splendid banquet" was given by the judge, M. Gaudion, to the rich in general, and to many of their Guernseyite neighbours in particular.

REMARKS ON STAINED GLASS.

The chancel of Horfield Church, near Bristol, which has been rebuilt, and was opened for public worship a fortnight ago, is fitted up with stained glass, executed by Mr. M. O'Connor, of Berners-street, London. The principal events in the life of our Saviour, including the Birth and the Ascension, are the subjects represented, and entitle the artist to much credit. These windows display thought as well as skill, and are altogether good specimens of modern imitation. The style of the chancel is the decorated.

At the west end of the same church, we hear, there is a window, by Mr. Bell, of Bristol, representing St. Michael, to whom the church is dedicated, triumphing over the dragon. The former windows we saw in London.

A new stained glass window has been put up in the church of St. Andrew Undershaft, London, but we have not seen it.

At the Decorative Art Society, on the 10th instant, the application of design to stained-glass windows formed the subject for discussion. Mr. Dwyer commenced it by remarking, that in the earlier instances of ecclesiastical embellishments of this kind, the ideal was frequently well expressed. But although the examples of medieval art were generally well appreciated, yet the admirers of it were rarely satisfied with modern imitations. This he attributed to the absence of a peculiar feeling and tone which pervade the more remarkable of the ancient specimens. An acquaintance with precedents, and a clearly defined knowledge of symbolism in form and colour, he considered to be essential to the artist who desired to produce any thing beyond exact imitations. He, however, maintained that ancient art ought not necessarily to be modern art, but that decorative design at the present day ought rather to appeal to and gratify the understanding, than to offer mementos of superstition. He preferred simplicity in the composition at all times to attempts in producing historical pictures; and observed, that the decline of this, as of other arts, had been manifested by endeavours to produce incompatible effects. Geometrical combinations, it was said, are in almost every respect more suitable for windows; but the leading forms should at all times harmonize with the architectural character of the building.

Several kaleidescopes were then examined, which had been arranged by Mr. Cooper for exhibiting geometric design. The pieces of coloured and other glass in circles, squares, and triangles, were variously classified. Several of the developments were very beautiful, closely resembling windows of the thirteenth century; and the counterparts of the contents of a kaleidescope afford simple and ready means of accurately delineating a desired result on paper. Descriptions were given of windows in Germany and at Hampton Court, as also some observations on the extraordinary chemical influences possessed by colours.

RAILWAY JOTTINGS.

The "matchless pier" at Southend, whose peculiar merits, or intrinsic value, no one, at the late unsuccessful attempt to get rid of it, appeared to be *able* to appreciate, has at length been taken off the hands of the Public Works Loan Commissioners, who were the mortgagees, by the Eastern Counties Railway Company, who have now become the purchasers of it and its revenues, of the latter of which they doubtless meditate an increase when the projected railway to Southend is completed.——The Secretary of the Great Western, Mr. Saunders, has the very handsome salary, it is said, of 2,500*l.* a year; the locomotive Superintendent, Mr. Gooch, one of 1,000*l.*; another Superintendent, Mr. Clark, 750*l.*; another, the Bristol one, Mr. Clark, 550*l.*; the Exeter, Mr. Ashbee, 325*l.*; and the Gloucester, Mr. Graham, 180*l.* The head accountant, Mr. Pyke, has 550*l.*——The tenders for the construction of the works included in Nos. 1 and 3 contracts on the Birmingham, Wolverhampton, and Dudley line have been disposed of. The first, which embraced that part of the line between Great Charles-street and Vyse-street, Birmingham, was obtained by Mr. G. C. Pawling, of Manchester; the second, which included the line

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In illustration of this I have selected examples taken from the churches of Headbourn Worthy and Stanton Lacy (see engravings), which shall be contrasted with the masonry of these Northamptonshire churches, as well as with the upper portion of Oxford castle. It will be at once seen that these, although in some measure analogous to parts of Barnack and Earl's Barton, do yet materially differ from them in appearance, whilst they are also the creation of a later time.

For instance, though in Headbourn Worthy we find the perpendicular long and short bonds as at Earl's Barton, they are in conjunction with work belonging to the time of Henry III., or Edward I., that is, long and short work in union with equilateral arches; or as in the uppermost stages of the castle at Oxford, long and short work united with late Norman, or as at Stanton Lacy with earlier Norman.

It might naturally have been supposed that a reference to the Doomsday Survey would have tended to settle a question of so much obscurity as the age of several of these rude and unquestionably early churches. But little that is conclusive is supplied from this source. The precept issued for the direction of the surveyors laid no injunction upon them to make a return of churches, and therefore their notice is extremely irregular, and for this reason no direct conclusion can be drawn, nor can the question be settled by reference to this document. * * *

Two sources of information bearing upon the history of ecclesiastical architecture seem hitherto to have met with little, if indeed any, attention. The abbatial chartularies of Great Britain probably contain a vast amount of matter bearing on this subject that deserves both carefully sifting, and comparing with the buildings to which it relates. This manuscript knowledge might very profitably be brought to bear on churches that are known to have been connected with those great establishments. To the importance of viewing ecclesiastic architecture by the aid of manorial history, as exhibited in the Inquisitiones post mortem, a more decided testimony may be borne. These illustrations may be very briefly, but conclusively, explained by the following examples, where such a method has been pursued. Passing over the noble specimens of regal architecture of a military description at Harlêch, Conway, Beaumaris, and Caernarvon, where the identity of styles, age, molds, and architecture must be undisputed, we cannot help being struck with the extraordinary resemblance in certain points of detail existing betwixt the churches of Crick in Northamptonshire, and those of Bilton and Astley in Warwickshire, all built or re-edified by Sir Thomas Astley. The same method of comparison will also be found deserving attention when applied to the churches built or enlarged by Sir Ralph Crumbwell, the lord treasurer to Henry VI., at Colly Weston in Northamptonshire, Lambley in Nottinghamshire, and Tattershall, in the county of Lincoln: and equally so the works of Bishop Burnell at Acton Burnell in Shropshire, and the chancel of the great collegiate church of Wolverhampton in Staffordshire, one of the twenty-eight manors belonging to this talented and wise prelate. The buildings in Sussex marked by the Pelham badge and buckle are well known. The students of William of Wykham's works will probably find no difficulty in detecting at St. George's Chapel, Windsor, at Adderbury and Hanwell, in Oxfordshire, and probably at Wolverhampton, the same kind of analogy. This may, when pursued out fully, also tend to explain further the family likeness that exists between village churches throughout particular parts of a county. It is well known that the Cistercian and Cluniac orders had their own peculiar ritual and monastic arrangements, and is it therefore too unreasonable a supposition, that the friends of those and other orders likewise, should have endeavoured to copy on a smaller scale the ornaments, the decorations, and the mouldings they admiringly observed at the great church of the district? At the present day, the handling of a chisel indicates to his fellow labourers the workman who was employed: the style of a building often shews, by unmistakeable marks in its proportion, its design, or general character, who is the architect; and it is not hoping too much when I express the conviction that we may still obtain, by means of the present practical knowledge so generally diffused on these subjects, if united to a research of the foregoing nature, a clearer insight into, a better classification, and a positive assignment of certain structures to the piety of tenants in capite whose mouldering effigies still lie within the walls themselves, or else to other individuals whose memory may only be preserved by the national archives.

These examples will not unappropriately serve to shew how desirable it is to refrain from drawing crude and hasty generalisations, from attempting to affix precise dates to structures simply because there are found co-existing in them some features in common with similar ones elsewhere. For this reason, then, caution should be observed in coming to conclusions from anomalous or isolated portions of a building, seeing that as yet we have much inquiry to make from careful measurement, as well as from records, knowing that churches were progressive in their erection, built by degrees, as the money could be obtained for the purpose, or as the masons could proceed with their undertaking, frequently commenced by one person and finished by his successor, or built by one, and improved and decorated by another. An instance in proof of this occurs in the church of Stratford in Suffolk; the lower part of the north aisle shewing in the flint-work the name of the builder and the date of 1430, whilst the porch where the inscription terminates is marked 1432. This will at once explain why incongruities so frequently exist, why we see such perpetual modifications and adaptations, and it will supply the reasons for those transitional appearances that exist at Romsey, at St. Alban's, and at many other of our most important edifices. Nor is it undeserving consideration, when chronological difficulties arise, that many of our parish churches were built by country workmen, by men who had little creative genius, and few opportunities of examining the purest ecclesiastical models, and who therefore were constrained to copy the best things near them (which I think will at once help to account for local styles), and whilst they were necessarily to a certain extent imitators, they would often, through negligence or through a want of fully appreciating the merits of the original, disfigure their own works by introducing into them some of its defects, probably reducing the depth of the mouldings, or disregarding the relative proportions on which much of its beauty might depend, or depriving it of those decorations which enchanted the eye, and caused it to dwell with admiration on the harmony that prevailed throughout the whole structure.

There is also another reason why we should be cautious in drawing direct and positive conclusions respecting the age of village churches, namely, that the styles were always in advance in cathedral or collegiate, whilst they were retrograde in parochial buildings. It was with architectural taste as with modern fashions, the rural population were the latest in catching the new mode.

It has, indeed, often excited astonishment, that so many beautiful fabrics should have been erected in the middle ages, when the difficulty of finding resources to build a church at the present day is so well known that the fact only needs stating. But the surprise will be diminished upon considering the altered circumstances of each period. When monastic buildings and parish churches were erected, the ecclesiastics were both influenced by different feelings than what guide them at present, and their condition also was dissimilar. At that earlier time, it is true, they were personally more indigent, especially the parish priests, but they had fewer wants, necessarily fewer from the vow under which many of them lived; they were also more zealous and skilful in carrying on the architectural works that surrounded them; they lived moreover amongst those who were animated by kindred feelings, amongst brethren, equally enthusiastic and self-denying, who sympathized and helped in the labour; thus, whilst it constituted a part of their duty, as it were, it became one of their recreations to decorate the religious house where they worshipped; and this again caused them to infuse the same ardour and the same taste at once into their superiors and their dependants.

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It would be unfair to conceal the results of such a system; its defects were apparent in the popular insurrections that from time to time broke out and marked a progressive extension of liberty, in the gradual emancipation of the human mind, and in the naturally inherent right of following up private conviction by private judgment; it is needless to do more than barely allude to what followed. Yet in concluding the explanation I have offered it would be incomplete if I did not add that the spirit of the age was both warlike and devotional at the same time, and whilst a love of military glory inflamed the mind and aroused the fiercest passions, it was the influence of the religious orders that served to soften and lull them again to rest. * * *

The sight of those sacred buildings which still rear their hoary pinnacles in silent praise to heaven, inspired our countrymen of old, as they should us, with a veneration for holy places. And we discharge no superstitious debt of gratitude by separating the exalted deeds of our forefathers from the lawless confusion that was mixed up with many of their actions, and giving them praise for executing the buildings we must all admire, and but vainly hope to excel.

It was no selfish or sordid spirit that was then so actively at work, no mercenary desire to aggrandise themselves by nicely balanced calculations, no speculative visions of worldly profit, from sharing in which others were excluded, but the motive power impelling them onwards through their earthly journey, was untainted by avaricious love of gain, or private gratification. The rising church absorbed every consideration; within its walls was entombed the love of native home, and family attachment and personal ambition; and thus the strongest affections, being withheld in their natural current, they were poured forth with all the increased energy of impassioned devotion upon the service of God.

THE ARCHITECTURAL SCHOOL OF DESIGN is now in a fair way of being established, in connection with the Society of Architectural Draughtsmen. Mr. Jayne, of 33, Southampton street, Strand, is the Secretary, and will be happy to afford every information to inquirers. The preliminary meeting will be held in the rooms of the Society of Architectural Draughtsmen on Wednesday evening, the 1st of March, at half-past eight o'clock, when all who take an interest in the scheme are invited to attend.

MORE MONEY TO BE WASTED.—Are there no members of the Wellington Statue Committee who will interfere to save the subscribers' money? To take down the scaffolding in the face of the decision of the Government, founded on universally expressed opinion, is simply to throw the cost of doing so away, of re-erecting it into the kennel. Lord Meath is too good-natured.

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HAD the present agitation in favour of the nearest possible approximation to the purity and clearness, and the cheapness and diffusion of the light of day arisen as the natural result of some extensive organization, league, or association, for the express and determined purpose, then the motive to, and the reason of, the simultaneous, sudden, and universal interest and effort in the cause would have plainly manifested itself; but, with the exception of our own reiterated efforts, no vis insita within the range of our experience is sufficient to account for this remarkable phenomenon. The subject of gas-light is evidently at this moment undergoing a complete and rapid revolution: it is labouring in the wholesome throes of a new birth, and is destined soon to assume an altogether novel aspect and economy of distribution. Demands for its reduction in price, its improvement in quality, its more diffusive abundance, are everywhere urged and everywhere forcing themselves into successful antagonism with the state of things as they are, and evolving the germs of the state of things as they will be; and now it is found that even the most preposterous expectations and demands for reduction of price are more than justified, by the revealment of the enormity of the profits that must have been already reaped, and the immensity of the reductions that may yet be profitably made. "If the Gas Company are getting a profit still, at 6s. per 1,000 cubic feet," says a witness, whose evidence before the Government Commissioners we may here adduce,—without, however, being at the trouble to specify or instance time or place on a point of evidence far from being solitary or limited to either place or time,—"they must have realized an enormous profit heretofore at 10s. to 12s. per 1,000 cubic feet." And that many a company has realized such profits at 10s. to 12s., and that all may still realize sufficient, and far more than sufficient profits, not only at 6s. or even 4s. but at 3s. or even 2s. per 1,000 feet has already been clearly proved. "Resolved," in public meeting assembled, says one recent formal petition to Parliament, "that we, the inhabitants of Ashton-under-Lyne, being gas consumers, having attentively listened to the evidence tendered before the Government Surveyors, and that evidence showing that gas *can be produced at less than three shillings* per 1,000 cubic feet, pray that the Ashton Gas Company be restricted to 4s. 6d. per 1,000 cubic feet, and that the gas be manufactured from cannel coal." Too liberal by half, as has been already plainly evidenced at Liverpool and elsewhere. "At Exeter," says one witness, in his evidence before the Commissioners at Southampton, "the present price is 6s., and a new company has offered to supply it at 3s. 8d. per 1,000. Mr. Short has told me that at Sheffield *it was supplied at 2s. 6d.* (!) and many manufacturers considering [probably knowing] *even that to be too high*, manufactured their own!" Moreover, we have already adduced corroborative evidence to much more than this effect from before the Government commissioners at Liverpool, and from all of which it appears that in many districts *coke manufactories are likely altogether to supersede mere manufactories of gas.*—As to the manufacture of the article, by the way, we may here note down a piece of rather interesting intelligence derived from the *Hampshire Independent*, which, interested, as who must not be, with the present progress of events towards the light of a new day, says, "We have been gratified by the inspection of a small gas apparatus, calculated for private use, constructed by Mr. D. Snaggs, ironmonger, of Middle Brook-street. It is now in full operation, and Mr. Snaggs states, that *after deducting the value of the coke*, the quantity of coal daily required for the manufacture of gas enough to supply five burners, from five o'clock till ten, does not exceed twopence! The cost of the apparatus would be 25*l.*; but a very trifling addition would enable it to produce gas enough to supply twenty or thirty more burners; the only alteration being an increase in the size of the gasometer, and an additional retort. The apparatus appears to be admirably adapted for railway stations, gentlemen's mansions, or public manufactories, in places where no gas works exist. It appears, too, to be capable of application for shops with great advantage, if the present charge for gas in Winchester is to be continued."——The inquiry at Southampton progresses; and the evidence goes far to prove the absolute necessity of the "fair competition" which is even already, by anticipation as it were, producing its good fruits. Until the proposed new company was started, the old, and only company, was waxing fat and kicking; for it not only persisted in its "enormous profits," but when any one dared to complain of the abominable quality, the provokingly deficient quantity, or the by no means deficient price, of what they pleased to give, he was replied to by "a man to cut off the pipes." No sooner did their incipient antagonist make his appearance, however, than down came the price from 10s. or 12s. to 6s., and up came the quality, and even the quantity, to par; but such amendments are by no means symptomatic of repentance, and they therefore merit no mercy, and none have they met with, for none have they deserved. The case of the new company appears to prosper.——The high price of gas at Cowes, still no less than 12s. 6d. per 1,000 cubic feet, has roused the indignation of the inhabitants, who were led to expect a considerable reduction in the charge for "this indispensable and only lately afforded boon;" and in a numerous meeting they have embodied their feeling on the subject in a series of rather mild resolutions in the meantime, to be laid before the directors of their company.——The diminished price of gas supplied by the present company at Worcester, namely, 6s. per 1,000 feet,—for which the citizens are indebted not to the present but to the prospective company, who have offered to supply it at 4s. 4½d.,—is already, it is said, leading to an increased and extensive consumption.——Another huge gasometer, to hold 200,000 cubic feet, or if made on the telescopic plan to contain even 400,000 cubic feet of gas, is to be forthwith erected at Manchester by the corporation. It was only last year that just such another addition was made to their enormous, and, as it ought to be in the eyes of all other corporations, their *model* establishment; and as to when that corporation mint will reach its full maturity is a question for the multitude of Manchester in future generations, not for those alone to whom it now gives wealth as well as light.——The capital, a bill for which the Liverpool "Guardian" is applying, is 133,000*l.*; and 3s. 8d. is the maximum price, with 7½ per cent. as the maximum dividend. The present Liverpool "Gas Light Company" is also now applying for power to raise 200,000*l.* of additional capital; the maximum price of its gas being 4s. 6d. with an assured dividend of 10 per cent.——At Cambridge, the gas proprietors have condescended to offer the citizens a reduction of 1s. per 1,000 cubic feet with a promise of more *in futuro*.——A reformation has already actually begun at Newcastle, or at least been something more than merely promised. The price has been reduced from 5s. to 4s. 6d. per 1,000 feet, with a scale of discounts from 10 to 20 per cent.; and the *Gateshead Observer* informs us that "an assistant manager of the gas works has been appointed, and a change for the better has been the consequence." The lamps, however, are said to be still too dim to do justice to the improved quality of the gas. The suggestion which appeared in our pages, to line the upper portion of the interior with mirror has been not only received with favour but almost universally quoted by our contemporaries. Perhaps the Newcastle gas, which now, it seems "need not be ashamed to shew itself," might thus be able to bear the reflection of its own more purified aspect now without a dimming blush.——Down to the year 1839, by-the-by, the price of gas at Newcastle was 10s. per 1,000 cubic feet—more than double the price of its present improved quality! The fear of a worse condition of things leads sometimes to a better.

ISLE OF ALDERNEY: NEW BREAKWATER.—The foundation stone of the new breakwater, or harbour of refuge, was laid on Friday week in the Bay of Crawley. The little island was in universal commotion. A whole ox was roasted for the workmen and the poor in general, and "a splendid banquet" was given by the judge, M. Gaudion, to the rich in general, and to many of their Guernseyite neighbours in particular.

REMARKS ON STAINED GLASS.

THE chancel of Horfield Church, near Bristol, which has been rebuilt, and was opened for public worship a fortnight ago, is fitted up with stained glass, executed by Mr. M. O'Connor, of Berners-street, London. The principal events in the life of our Saviour, including the Birth and the Ascension, are the subjects represented, and entitle the artist to much credit. These windows display thought as well as skill, and are altogether good specimens of modern imitation. The style of the chancel is the decorated.

At the west end of the same church, we hear, there is a window, by Mr. Bell, of Bristol, representing St. Michael, to whom the church is dedicated, triumphing over the dragon. The former windows we saw in London.

A new stained glass window has been put up in the church of St. Andrew Undershaft, London, but we have not seen it.

At the Decorative Art Society, on the 10th instant, the application of design to stained-glass windows formed the subject for discussion. Mr. Dwyer commenced it by remarking, that in the earlier instances of ecclesiastical embellishments of this kind, the ideal was frequently well expressed. But although the examples of medieval art were generally well appreciated, yet the admirers of it were rarely satisfied with modern imitations. This he attributed to the absence of a peculiar feeling and tone which pervade the more remarkable of the ancient specimens. An acquaintance with precedents, and a clearly defined knowledge of symbolism in form and colour, he considered to be essential to the artist who desired to produce any thing beyond exact imitations. He, however, maintained that ancient art ought not necessarily to be modern art, but that decorative design at the present day ought rather to appeal to and gratify the understanding, than to offer mementos of superstition. He preferred simplicity in the composition at all times to attempts in producing historical pictures; and observed, that the decline of this, as of other arts, had been manifested by endeavours to produce incompatible effects. Geometrical combinations, it was said, are in almost every respect more suitable for windows; but the leading forms should at all times harmonize with the architectural character of the building.

Several kaleidescopes were then examined, which had been arranged by Mr. Cooper for exhibiting geometric design. The pieces of coloured and other glass in circles, squares, and triangles, were variously classified. Several of the developments were very beautiful, closely resembling windows of the thirteenth century; and the counterparts of the contents of a kaleidescope afford simple and ready means of accurately delineating a desired result on paper. Descriptions were given of windows in Germany and at Hampton Court, as also some observations on the extraordinary chemical influences possessed by colours.

RAILWAY JOTTINGS.

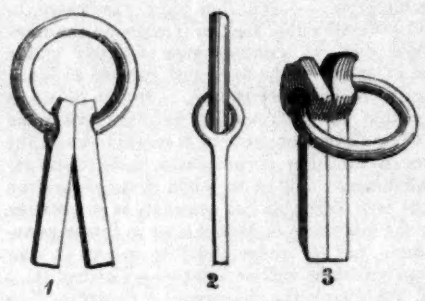
THE "matchless pier" at Southend, whose peculiar merits, or intrinsic value, no one, at the late unsuccessful attempt to get rid of it, appeared to be *able* to appreciate, has at length been taken off the hands of the Public Works Loan Commissioners, who were the mortgagees, by the Eastern Counties Railway Company, who have now become the purchasers of it and its revenues, of the latter of which they doubtless meditate an increase when the projected railway to Southend is completed.——The Secretary of the Great Western, Mr. Saunders, has the very handsome salary, it is said, of 2,500*l.* a year; the locomotive Superintendent, Mr. Gooch, one of 1,000*l.*; another Superintendent, Mr. Clark, 750*l.*; another, the Bristol one, Mr. Clark, 550*l.*; the Exeter, Mr. Ashbee, 325*l.*; and the Gloucester, Mr. Graham, 180*l.* The head accountant, Mr. Pyke, has 550*l.*——The tenders for the construction of the works included in Nos. 1 and 3 contracts on the Birmingham, Wolverhampton, and Dudley line have been disposed of. The first, which embraced that part of the line between Great Charles-street and Vyse-street, Birmingham, was obtained by Mr. G. C. Pawling, of Manchester; the second, which included the line

between the junction at West Bromwich, Staffordshire, to Priestfields, near Wolverhampton, was obtained by Messrs. Frost and Bates, of Wednesfield. Nine tenders were sent in; those accepted are under the parliamentary estimate, and the works are to be completed by the 1st of August, 1848.——The directors and contractors of the North Staffordshire have placed 1,000*l.* at the disposal of the Bishop of Lichfield, to be employed in promoting the spiritual welfare of the labourers engaged in constructing that line.——The works of the Victoria tunnel, at Liverpool, have been recently begun. The Messrs. Holme and Mr. M'Cormick are the contractors. Several acres of land are in process of excavation at Edge Hill, to be added to the present station, where there will thus be abundant space for the thousands who, in the summer season, avail themselves of the "cheap trains." The grand entrance of the tunnel is under the road leading to the Railway Hotel. It is to pass in an oblique direction across the town, being carried in a direct line under the King's Monument, Christ Church, the Friends' meeting-house, the chapel in Byrom-street, the North Dispensary in Vauxhall Road, and then under the Leeds and Liverpool Canal, to a station, comprising several acres, between Great Howard-street and the Waterloo Dock. Considerable progress has been made at the various "eyes," as they are termed, along the whole of the line. The entire costs of this gigantic undertaking, says the *Mail*, will be about 200,000*l.*——The tunnel on the Trent Valley line is driven through and nearly all bricked. All the cuttings on this line are executed, so also are all the bridges, and the whole works will be completed in a few weeks; but to afford time for the consolidation of the works, the opening will not take place till the 1st May, a more commendable course, and likely, *ceteris paribus*, to lead to results much more satisfactory to all, than any to be consistently expected from companies so eager to reap a premature harvest as those are who have lately been offering contractors premiums so tempting to hurry their works with break-neck speed into shape and action.——At the present time, says the *Preston Guardian*, "the number of trains arriving at, and departing from, the North Union Railway Station in this town daily, amounts to no less than 133; surpassed, or even equalled, we think, by no other station in the kingdom."——Many of the Highland labourers hitherto employed on the railways in the Lowlands of Scotland,—thus industriously earning a subsistence for themselves and families,—have, it is said, thrown up their employment and gone home to the distressed districts in the Highlands, where, they boast, that they will now "get plenty of porridge for nothing." The improvident and fearful fruits of such a dependance on the Government for future support are said to be also manifesting themselves in the refusal of men,—who must be without *employment* in these very districts, if there be any real *distress* there at all,—to embrace the opportunity offered them by one of the Edinburgh and Northern Contractors, while on a tour in the counties of Inverness and Argyle, to employ three hundred of them at 2s. 4d. to 3s. a day. He could only obtain from 30 to 40! At Greenock, too, where a number of the "distressed" Highlanders had been provided with work at 10s. a week each in wages, so *independent* of such work and such wages does their debasing dependance on "porridge for nothing" appear to make them feel, that they impudently demanded a rise of wages; and on refusal, "headed by a bagpiper," they "marched away" to their "porridge for nothing," in preference to industrious employment and 10s. a week!——A railway carriage, or wheeled saloon, of gigantic dimensions, is in course of construction at Hamburg for the use of the King of Prussia. It will be 30 feet in length, and from 15 to 16 feet in height. It will be furnished with an antechamber, a bed-chamber [! An unlikely circumstance, surely, that the King of Prussia should be obliged to travel all night by railway, even "in meditatione fugæ"] a dressing-room, a chamber for his majesty's aides-de-camp, and a saloon, the whole fitted up with great magnificence, and adapted to the most improved ideas of comfort.——All the American railway shares are said to be now at a premium.——A line of electric telegraph, says a correspondent of *Galignani's*, has been completed across the Alleghany Mountains, and it has worked admirably between Philadelphia and Pittsburg, a distance of 300 miles. The journals of Pittsburg have published the proceedings of congress of one afternoon on the following morning; and this is the case with all the news from the great cities of the Atlantic coast.——A correspondent of the *Edinburgh Chronicle* states that Mr. Rowland Hill intends to make a new and important use of the electric telegraph for postal communication.

RUSSELL'S "SPEEDY LEWIS."

Sir,—Through the medium of your valuable and useful journal, I beg to submit a description of the accompanying design for *a lewis*, for the purpose of speedily raising and setting stones prepared for masonry.

The ordinary lewis, so well known and generally used by masons, requires no further description than a reference to the present claims of advantage, at least in its readier application, even where small stones are specified to be lewised, which by this process can be effected in at least one-third the time, as will be seen by the accompanying sketch. Fig. 1 and 2 represent front and side view of the lewis when expanded and carrying the weight, and of which the model of the following dimensions has been tested to five tons without any symptoms of defect or inadequacy. The dowels or prongs are each four inches long, one inch wide, and half an inch thick, with proportionate shoulders to form the eylet (for ring of three-quarter bolt iron), countersunk



on the outer side, so as to form an inclined plane for the ring to act upon, the back edge above the ring of each dowel being champhered with a curved shoulder, to allow the lower ends to spread when the ring is raised, the hole to receive the lewis, as usual, being cut larger at bottom, or as it is termed *dovetailed*. The lewis is simply inserted, as shewn in figure 3, and by raising the ring the lower ends expand, as described above; and upon lowering the same, it is immediately released without the tedious process of knocking out the pin, bolt, shackle, and the centre dowel of the ordinary lewis. Provision is also made in case the lewis hole, by error or *ignorance*, should be cut too large; the ring being of egg form, by reversing the smaller end downwards the dowels or prongs become more extended, by which means the evil is obviated without inserting slips of iron or lead, as usually applied at the risk of flushing the stone or giving out of the lewis.—I am, Sir, &c.,

H. H. Russell.

RESTORATION OF CHICHESTER CATHEDRAL.

An appeal to the inhabitants of the diocese for assistance in this work has been issued by the dean and chapter, shewing strong claims to their co operation. Much has been done at a heavy cost to the chapter; the estimated sum now required is 22,000*l.* This does not include some alterations in the choir, concerning which the following remark is made in the appeal:—

"The dean and chapter are sensible that the actual choir is not in all respects what might be desired. But they feel the greatest reluctance, at the present time, to propose any definite plan for its alteration. This is a department of cathedral architecture in which much information and experience are yet to be acquired. The dean and chapter at present can do no more than express their entire conviction that the most magnificent church which serves merely to gratify the eye of taste has entirely missed its proper end and object.—And greatly will they rejoice, if, after some longer time for observation, they shall be able to devise a plan, whereby, without violating the rules of architectural fitness, a larger portion of their fabric may be made more directly available toward the great purpose for which every church is designed,—the worship of Almighty God."

We are not quite certain that we understand exactly what this means, we should like to do so.

A large recessed and canopied arch, ordered to be raised by Mr. John Abel Smith, M.P., to the memory of his late father, is now completed, except the effigy, which the sculptor, Mr. E. Richardson, is now engaged upon. It is placed under the great window in the south transept, opposite to St. Richard's shrine and tomb, and near to the recessed canopied tomb of Bishop Langton. It is at length decided to insert a triplet in the Wren mullioned window, so long a disfigurement at the west end of the cathedral.

KENSINGTON WORKHOUSE COMPETITION.

Sir,—My attention having been drawn to two or three letters in The Builder respecting the competition for building the proposed new workhouse at Kensington, in which the good faith of your correspondent G. H. S. is impugned, I have the honour of forwarding to you the following plain statement of facts respecting the plan now adopted by the guardians.

Mr. Allom estimated the original plan without the chapel at 8,700*l.*; when the tenders were sent in for building the same, they ranged from 13,700*l.* to 17,500*l.* Mr. Allom, who was present when the tenders were opened, then accounted for the difference between those tenders and his own estimate, by stating that he had discovered an error in the quantities of the person employed by the builders to take them out, to the amount of at least 500*l.* in one of the trades, namely, the bricklayer's. It is true that he had communicated this discovery to the guardians before the tenders were sent in; but it is absurd to suppose that your correspondent G. H. S. meant to insinuate that he could have discovered this error only at the moment the amount of the tenders was briefly read over to him. I requested Mr. Allom to inform me what were the other trades concerned in this error, and he replied, "the principal ones are the carpenter and the mason." I then observed, "Allowing 1,500*l.* for these trades, Mr. Allom, the lowest tender will still exceed your estimate by 3,500*l.*"

The guardians, or rather the building committee of the guardians, then concerted with Mr. Allom to reduce the expense of his plan, and in my presence, the vice-chairman of the board assured the Poor-law Commissioners, that Mr. Allom and one of the builders who competed for the work had undertaken to carry the amended plan out for 9,800*l.*, and that that undertaking was so strong, that it was almost as good as a tender. I ridiculed the idea, and appealed to the common sense of the Poor-law Commissioners, whether they could believe such a statement. But the Poor-law Commissioners bowed civilly, and proceeded to adopt it, and to calculate and reason upon it.

When the tenders for the reduced plan were sent in, they ranged, as I expected, from 11,000*l.* to 13,000*l.* in round numbers. Mr. Allom accounts for this now by additions, which are explained to me to be that of 199*l.* for the relieving officer's store-room and office-rooms essential to our parochial provisions for the poor, which must be provided for at a greater expense elsewhere, if not included in the workhouse, and without which the new workhouse would have been inferior to the present one, which is in some measure provided with them.

Besides this addition there was a sum of about 170*l.* or 180*l.* for a superior kind of brick for parts of the building.

I am, Sir, &c.,—John Perceval,
Guardian of the Parish of Kensington.
Campden Cottage, Kensington,
Feb. 20, 1847.

Lectures on Architecture.—Mr. T. L. Donaldson commenced a course of four lectures on architecture at the London Institution, on Thursday last. The works of the Egyptians formed the subject of the first lecture.

BRUNETTI'S MODEL OF ANCIENT JERUSALEM.

A visit to this very interesting model, in Piccadilly, will be found to give a lasting enjoyment; clear ideas are gained of places and events described in the holy writings; and facts, all-important for mankind, are fixed in the mind more indelibly by an hour's examination of it than would be done by a month's reading. Of all localities Jerusalem has the strongest claims upon our attention,—"that city, where, of old, Jehovah dwelt,—where David sung,—and where Jesus suffered." To have its walls and gates and buildings,—the scene of the crucifixion, the Temple, the pool of Bethesda,—brought tangibly before us at our own doors, is a great advantage for which many thanks are due to the artist who produced this model. Like all similar works, the first view of it disappoints, but after a little time, the mind becomes accustomed to the scale, and the various objects, viewed relatively, grow into importance.

Admitting the difficulty of the work, and recognizing as we have done the ability with which, generally, it is executed, we are nevertheless compelled to find fault with the architectural appearance given to the Temple: it has all the character of a cinquecento Italian building, none of the Temple raised by Herod. Mr. Brunetti would do well to cancel it.

The site of the new protestant church about to be built on Zion, by Mr. Johns, is pointed out by a small block of stone from the spot, placed there by the architect himself.

ENGRAVINGS.

Mr. George Raphael Ward has just now completed two engravings in mezzotinto, which will tend to advance his reputation. One of the two is of Mr. Mackenzie, the well-known railway contractor, in Paris, and the other of the venerable Archdeacon Thorp, Warden of Durham University.* The first is from a picture painted by Mr. T. H. Illidge, and presented to Mrs. Mackenzie by public subscription in Paris, Dec. 31, 1846. The second is from a painting by Mr. J. R. Swinton, and is to our minds by far the best work. The head is exceedingly well executed, and the general effect artistical and good. They are both rather dark picture prints: when it is remembered, however, that the chief excellence of mezzotinto is exhibited in shadows and not in lights, which present much difficulty, and often appear cold and poor when compared with the lights in a line engraving, even when treated with the greatest skill, the reason is obvious. Most of our readers probably are aware that in mezzotinto engraving, the whole ground of the plate is at first black, and the lights are produced by scraping away and burnishing parts of the surface: whereas, in a line engraving, the ground is white, and the lines and shadows are formed upon it by the "graver."

Fall of more Old Houses.—The metropolis is being gradually purged of its old and crazy edifices, happily without any great fatality. The fall of two of these we had very recently occasion to notice, and since then three more have fallen, one in Ratcliffe and two in Kent-street, Southwark, by which latter, however, seven lives were placed in imminent jeopardy, although they all escaped with almost miraculous impunity. Besides the one at Ratcliffe, four others there have been shored up until razed to the ground, which they are forthwith to be. The two at Southwark, as well as these, have been long under the surveillance of the district surveyors, or at least long known to have been in a very crazy condition, although poverty has tempted many poor people, knowingly, to risk their lives in them, in order to save their rents.

Battersea new Church.—A new Church to hold 800 persons on the ground floor, is about to be built at Battersea, Surrey, near the Princes' Head. The plan is cruciform, with a tower and spire at the north-west angle; the style, decorated gothic of the date Edward III. The builders are now making their estimates, and it will be commenced in about a month. Messrs. Lee and Bury are the architects.

* Published by the Engraver, 31, Fitzroy Square,

Correspondence.

NEW PLOTTING SCALE FOR SURVEYORS.

Sir,—Perceiving in your number of the 6th instant a communication by Mr. Edward Blake, wherein he gives an explanation and illustration of a surveyor's plotting scale devised by him, I beg to forward you a drawing of one invented by me, and laid before the Committee on Mechanics of the Society of Arts, on the 3rd of April, 1845, to which his scale bears an extraordinary similarity.

Although the invention is not one of very high importance, I am of opinion that it is fair that the inventor should in every case claim his due, and that proper acknowledgment should be made where there is a title to it. However, I should not have troubled you in the matter, but that Mr. Blake's scale appears faulty in several respects as compared with the one previously in use. The most important is the impossibility of using more than one offset scale to the same line scale; whereas in that which I have been in the habit of using, many line scales being marked at the sides, and the groove being left open at the end, the different offset scales necessary from time to time may be introduced into the same frame.

There is a decided objection to the position of the brass pins in Mr. Blake's scale, as the paper is thereby injured in the very place where it should be most perfect, namely, on the measured line.*

Probably these suggestions may be of value to those of your readers who have not already had the original scale in use.

I am, Sir, &c., J. Murray.

H. M.'s Dockyard, Portsmouth,
Feb. 16th, 1847.

* In Murray's scale the ends are elongated to receive a lead weight instead of a pin.—Ed.

Miscellanea.

Soup-Kitchens for the Poor.—The scheme for the erection of soup-kitchens for the poor, which is considered to have some merit apart from the cheap preparation of soup, lately questioned, is likely to be extensively acted upon, not only in Ireland, where Mr. Soyer is about to superintend the working of his scheme under the direction of Government, but also in London, and many parts of England. The building originally projected by Mr. Soyer, for which the plan first laid before the Government was arranged by Mr. Edward Hall, architect, has a central area, of square form, in which are a boiler, a large pan, tables, and every convenience for preparing the ingredients. The soup is finally made in large oblong pans, ranged round the area, and beyond these is a passage for the attendants, who can thus readily serve out the soup into basins fixed in a frame, which forms the other side of the same passage. The liquid in these pans is heated by steam from the boiler. The building is enclosed on the four sides, a narrow space being left for the poor, and much attention seems to have been paid to prevent confusion. It will be covered with canvass. This plan has since been modified in size, and in some details. The present scarcity renders such schemes worthy of examination, although it may be questioned by many whether they are free from injurious results. At Manchester and Liverpool, soup-kitchens, on an extensive scale, have been sometime in operation.

Effect of Frost on Stone.—Sir,—In passing through Clifton some time since, I observed a circumstance that I think ought to be generally known to builders. It was after the late frosts. Some new balconies had been put up about nine months before, and some of the parties had taken the precaution of painting the bottoms and edges with several coats of paint. The consequence was that the water falling on the top lodged in the stone (the paint preventing an outlet), and froze there, and the result was that it burst the lower part, which fell off, paint and all, in large spawles, very much to the danger of the passers by.—Yours, &c. H.

The Regent's Canal Company's Bill.—The Government having refused assent to this bill, the second reading has been postponed at the request of its promoters, to enable them to submit some modifications to the House.

Projected Works, &c.—Advertisements have been issued for contract-tenders for the various works necessary in erection of church at Congleton; improvement of church in Cornwall; partial razing and rebuilding of church at Wolsingham, and erection of school at Towlaw (extension of time); partial rebuilding and restoring of church at Trowbridge; alteration and erection of farm-offices, cottages, &c., near Edinburgh; excavation, masonry, &c., of aqueduct and main pipes, cast-iron sluices, cocks, and other metal works, and a quantity of 20-inch cast-iron and other pipes, all for Bristol Water Works; the various usual ordnance works in masonry, carpentry, &c. &c. at Dorchester, Weymouth, Trowbridge, and Sheffield barracks, and Portland Castle; the working of limestone, and other quarries or hauling-stone for repair of roads in Herefordshire; 600 cubic yards of good Kentish rock-stone, at Rochester; repair of pavements, for 5 years, at Portsea; large supply of stock bricks at Cowes; various works necessary in formation of 9 miles of Newport and Hereford Railway; 3 miles of Glasgow and Ayr, &c.; 11 miles and 9 miles of London and North-Western; 21 miles and 4 miles of Glasgow and Dumfries; and for erection of a bridge at Dumbarton; Cast-iron Viaduct at Liverpool; stations, warehouses, 8 cottages and walls, on London and Brighton Railway; also for a quantity of railway bars at York Station, and 6,500 tons of malleable iron rails, 1,850 tons of cast-iron chairs, and 70,000 sleepers, for Caledonian and Dumbarton Junction Railway; for the erection of Archbishop Parker's Grammar Schools at Rochdale; and the Walworth Literary and Scientific Institution; and for building sewers in Camden Town and Whitechapel.

Continental Glass Manufactories.—The first window-glass manufactory in the province of Hainault commenced in 1625, soon after which two others followed, and there are now no fewer than thirty-six houses in full blast: sixteen work eight pots, employing 128 blowers; twenty-six with six pots, and 120 blowers; thirty-six with three stokers; thirty-six glass cutters and fifteen potters—the total cost being 43,384*l.* per annum. There are five new glass-houses being built for 1847, and two new companies forming to commence extensive works in every description of glass. The quantity of coal, charcoal, sand, &c., used in glass manufacture, is immense.

Mr. Collins, R.A.—The death of Mr. Collins must be regarded as a great loss by all lovers of art. His beautiful representations of nature, suffused with tender sentiment, will be missed on the walls of the Royal Academy. He had been twenty-seven years an Academician, and was in the fifty-ninth year of his age.

Competition.—Fifteen pounds, and employment at the usual commission in superintendence of works, are offered for the best plan of a town-hall and other buildings at Yeovil, Somerset.

MEETINGS OF SCIENTIFIC BODIES

During the ensuing Week.

Monday, March 1st.—Archæological Institute, 25, Great George-street, 4 P.M.

Tuesday, 2nd.—Institution of Civil Engineers, 25, Great George-street, 8 P.M.

Wednesday, 3rd.—Association of Architectural Draughtsmen, 33, Southampton-street, 8½ P.M.; Society of Arts, Adelphi, 8 P.M.

Thursday, 4th.—Royal Society, Somerset House, 8½ P.M.; Society of Antiquaries, Somerset House, 8 P.M.

TO CORRESPONDENTS.

"*C.R.*"—A reply would occupy more time than we can spare.

"*A Youngster*" will find the information he wants in our present number.

"*B.A.*"—Old travellers say one pound per day will carry you any where but over England. A stay in any one place, of course, lessens the expense. Cost of travelling depends greatly on management.

"*W.A.*" (Rochester).—Mr. Henry Shaw (37, Southampton-row) has published a work containing what our correspondent wants.

"*G.H.*" (*New Town.*)—We do not know that the details of the window in question are published.

"*E.D.*" (Pimlico).—Will our correspondent send us the extract he alludes to.

"*J.L.C.*"—Shall appear.

"*A Londoner*" is unavoidably postponed till next week.

"*Brickbat*" next week.

"*J.W.*"—Ditto.

Received.—"W.G." (Ryde). "W.G.P." "H.T." "M.S." "C.G.G." "Jackplane." "H.S." (Bromley). "H.C.L."

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.

TO BUILDERS, PAINTERS, AND OTHERS.

MESSRS. WOOD and Co., GRAINERS and WRITERS to the Trade only.
62, WATERLOO-BRIDGE-ROAD.
An Apprentice wanted (a country lad would be preferred).

MISS BESSEMER, EMBROIDERESS, 9, JUDD-STREET, Brunswick-square, respectfully solicits orders for the cleaning, repairing, and transferring of ancient Needlework and Tapestry; also for the embroidering of Altar-cloths to new and approved designs; Coats of Arms, Crests, &c. &c., worked in gold or silk.—Miss B. is allowed to refer to some of the first houses in the trade as to her care and abilities.

PAVING, 2s. 9d. PER SQUARE YARD.
Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 12, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen for covering bridges and arches.

SURVEYING AND ESTIMATING.

BUILDERS and Others can have Quantities taken out for them with correctness and dispatch; their works Measured, and Accounts adjusted for considerably less than half the customary charges, by a respectable person of many years' experience in the profession.—Address, post-paid, A. C., to the care of Mr. J. Staion, carver, No. 40, Berwick-street, Soho-square.

ARTISTS, DESIGNERS, and Amateurs are informed that the General PRACTICAL SCHOOL OF DESIGN, 18A, Maddox-street, Hanover-square (Master, J. M. Leigh, Esq.), is open every evening, from Seven till Ten, for the study of Drawing, Painting, Modelling, &c. &c. The Living Model, Male and Female—with Weekly Lectures on Art.—Terms, One Guinea per Quarter.
R. W. HERMAN, Hon. Sec.,
24, Green-street, Grosvenor-square.

OFFICE for PATENTS of INVENTIONS and REGISTRATIONS of DESIGNS. Full Information on the subject of PATENTS for the United Kingdom or Foreign Countries may be obtained (gratis) on application either personally or by letter, to JOHN GEDGE, British and Foreign Patent Agent, 4, Wellington-street South, Strand. MM. les Etrangers sont invités d'écrire pour l'information nécessaires sur les formalités requises et les démarches à suivre pour obtenir des Brevets d'Invention.

HOWARD'S TRANSPARENT TRACING PAPER combines the several requisites desired by Architects, Engineers, &c., toughness of substance, the capability of retaining ink or colour undisturbed on its surface, a high degree of transparency, and every quality from the finest tissue to the thickest drawing paper. Prices low. Books containing nine samples, with sizes and prices, sent per post to any part of the kingdom.—23, GREAT RUSSELL-STREET, BLOOMSBURY.

ZINC WORK.

MESSRS. F. and J. HARLAND beg to call the attention of Builders and others to the following list of prices, for cash:—

2-inch Pipe .....per foot	4½d.	3½-inch Gutter....per foot	4½d.
3½ ditto ..... "	5d.	4-inch ditto ..... "	5d.

Including Fixing.

Flats Covered and Cisterns Lined from 4½d. to 6d. per foot superficial; Cornice Gutters, 5d. to 7d.—No. 8, Cumberland-place, Newington, Surrey, opposite the Fishmongers' Alms-houses.
N.B. Orders by Post punctually attended to.

WILLIAMS'S PATENT SLATE RIDGES and HIPS.—The above article is recommended as the best and the most suitable covering for Ridges and Hips of slated roofs ever invented, possessing a solid Roll of various sizes, more elegant and durable than lead, and 30 per cent. cheaper.—Sold by Messrs. J. and J. SHARP, Slate Merchants, Tooley-street, and Mr. RICHARD COOPER, Slate Merchants, Belvedere-road, Lambeth, London. May be had also of all Country Slate-dealers.

PATENT ASPHALTE ROOFING FELT, as used by
Her Majesty's Woods and Forests,
The Royal Agricultural Society of England,
The Leeds and Manchester,
The London and North Western,
The Liverpool and Manchester,
The Chester and Holyhead,
The Norfolk and other Railways,
And the Corporation of the City of Edinbro'.
PRICE ONE PENNY PER SQUARE FOOT.
Also "DRY HAIR FELT" of superior make, at very reduced prices, for preventing the Radiation of Heat, and deadening sound.
THOS. & NO. CROGGON,
8, Laurence Pountney Hill, Cannon-street, London, and
Bull's Head Yard, Manchester.

IMPORTANT TO BUILDERS.

THE ARCHITECTURAL CARVING COMPANY (Irvine's Patent), beg to inform Builders, that they are now manufacturing beautifully ornamented chimney pieces in stone and marble, from one pound and upwards. Specimens may be seen at their works in Eccleston-place, Pimlico, leading out of Ebury-street. Gothic windows and mouldings executed to any pattern, at greatly reduced prices.

CARVINGS IN WOOD.—The unrivalled perfection at length attained by the Patent process of Carving, enables its proprietors to offer to the public, at an extremely reduced price, every possible variety of Carved Wood for external and internal enrichments—thus substituting the genuine material for those numerous imitations which have invariably been found fragile or unsatisfactory.
Mouldings and Carvings of all kinds are thus supplied, adapted for Church or Library Fittings, Altar Chairs, Picture Frames, Chimney-pieces, and every description of Gothic or Elizabethan Furniture.
Specimens may be seen and Drawings obtained at the Patent Wood Carving Offices, 444, West Strand, or at the Works, Ranelagh-road, Thames-bank.

ORNAMENTAL IRON STAIRCASE.

TO BE DISPOSED OF, at a great sacrifice, having been recently made for a GENTLEMAN'S MANSION, and not now required, consisting of twenty-nine steps fitted with ornamental cast-iron heads, and risers full three-eighths in thickness, perforated with quatrefoils in panels, moulded nosings, and open bracket ends, framed on wrought-iron carriages of 3 inches by 1 inch.
This staircase is well adapted for any situation WHERE ELEGANCE, SPACE, and LIGHT, are desirable, as both ends are framed to shew, and may be put up in a central situation, and suitable in a show-room, warehouse, or any out-door purpose, such as for descending from a drawing-room to pleasure-grounds, &c. &c.—Apply to PIERCE and KOLLE, Stove-Grate Manufacturers, 5, Jermyn-street, Regent-street.

PIERCE and KOLLE, 5, Jermyn-street, Regent-street, Radiating Stove-Grate Manufacturers.—DISSOLUTION of PARTNERSHIP.—In consequence of a Dissolution of Partnership, a large portion of their SPLENDID STOCK WILL BE DISPOSED OF, and is offered to purchasers at a great reduction. It consists of Chimney-pieces, Stove-Grates, Fenders, and Irons, in suites; Kitchen and Laundry fittings, comprising Ranges, Ovens, Boilers, Hot Plates, Turbot, and Fish Kettles; Bain Marie Pans, and every article for kitchen use; PATENT WARM AIR and ARNOTT STOVES, BATHS of all kinds; LOCKS, and general furnishing IRONMONGERY.
N.B. PIERCE takes this occasion respectfully to acquaint the nobility, architects, and gentry, that the business will continue to be conducted by him without interruption, as usual.
5, Jermyn-street, Regent-street.

CAEN SUFFERANCE WHARF, ROTHERHITHE.

LUARD and BEEDHAM beg to inform Architects, Surveyors, Builders, and others, that they have removed from Norway Wharf, Greenwich, the whole of their Caen Stone business, to the above extensive premises, where a large Stock will be kept up by continual fresh arrivals from their quarries at Allemange. Orders received at the wharf, and further particulars may be obtained of Mr. GEORGE GATES, 18, Southwark-square, Borough, London.
Orders shipped direct from Caen to any port.
The Waterman Steamboats call at Lavender-pier, adjoining Caen Wharf.

CAEN STONE DEPOT, NORWAY SUFFRANCE WHARF, GREENWICH.

P. FOUCARD and W. TUCKWELL, Caen Stone Importers, beg to inform Architects, Sculptors, Masons, and others, that they have a large stock of superior dry seasoned Caen Stone on their Wharf (imported July last), exclusively from their quarries, at Allemagne, which, for present uses, is superior to any now imported. Orders received by Mr. TUCKWELL, at the Wharf, and at the offices of Mr. R. A. WITHALL, Surveyor, 20, Cheapside, where any information and samples may be obtained.
Caen Stone shipped direct to any port by Monsieur Foucard, at Caen.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects and others, that GOTHIC WINDOWS, and every other branch of Stone-work, &c., are executed at the cheapest possible rate, and packed for the country ready for fixing or fixed, enabling ARCHITECTS to have the most difficult TRACERY for CHURCHES, or other buildings in the PROVINCES, executed under their immediate inspection in TOWN.
BUILDERS and MASONS can have every description of Stone in the London Market, either in the rough block, or cut to sizes from the saw, or prepared ready for fixing or fixed, avoiding either waste in the goods or carriage.
Box Chimney-pieces from 12s. upwards.
THE WORCESTER ENCAUSTIC TILES, in all their beautiful variety, may be inspected, in addition to the usual extensive stock of Chimney-pieces and FONTS.
Estimates given for building generally.

LADYSHORE TERRA COTTA.—The attention of Architects, Builders, and others engaged in building, is respectfully called to this material, which combines the beauty and durability of the best Freestone at half the cost. Its colour is of a rich warm yellow stone tint. This material has been used in the entire building of two churches; one in Manchester, and one at Bolton-le-Moors, and a parsonage-house and the ornamental parts of a school, also in many other churches and buildings, &c. Its advantages are, that it is not a "Composition," nor of the nature of Stucco, but HARD BURNT CLAY. In rich ornamental work, its value will be found to be great, being so much cheaper than carved stone or wood, and equally durable.
The principal ornaments manufactured are capitals, trasses, bosses, brackets, royal arms, foliated mouldings, panels, panelled bench-ends, with poppy heads; pinnacles, finials, chimney-tops of all sizes, vases, fountains, pedestals, busts, chimney-pieces, indented tiles and other tiles for churches, halls, &c., and every variety of ornament that is used for building purposes.
This material is warranted to stand the weather. Specimens may be seen, and every information obtained, on application to the Proprietors, E. P. WILLOCK and Co., 10, Exchange Arcade, Manchester.

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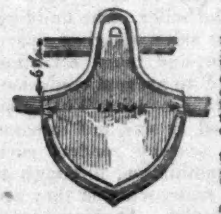
TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK and TILE MACHINE COMPANY (James Smith, Esq., of Deanstone, Chairman), invite attention to their improved Brick and Tile Machines, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. SCRIVENER, the Manager, will shew the Machines at the Works at Alperton, which is within a mile of the Sudbury Station of the London and North Western Railway, and two miles of the Ealing Station of the Great Western Railway. All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the Office of the Company, 193A, Piccadilly, London.—28th February, 1847.

PATENT ARCHITECTURAL ROOFING TILES.



ARCHITECTS, Builders, and Others, may now be supplied with these ornamental Tiles, which for security, beauty, and effect, surpass every other kind of roofing, whilst their cost but little exceeds the covering with common pantiles, and their superiority over slating is at once apparent.
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And as an Elegant Present to a Lady, as well as a most Convenient Pocket Appendage.

TO all those who find a Difficulty in the Use of STEEL PENS, and who wish to avoid the loss of time occasioned by the frequent mending of Quills, STEPHENS'S PERPETUAL PEN, made of Gold, with Points which never wear or alter, offers a most convenient substitute, as Ink, which oxydises and lingers in the steel pen, flows from this with precisely the same facility as from a Quill, and the Pen never requires mending. Price 15s. It may be used with a common holder. With an ever-pointed Silver Pencil Case, with Leads, 27s.
Sold by the proprietor, HENRY STEPHENS, 54, Stamford-street, Blackfriars-road, London. On application, by letter, this Pen will be sent, per post, to any part of the kingdom.

DEANE'S TWO-HOLE BLACK PENS, which are unequalled for their durability and easy action, are adopted by the gentlemen of the Stock Exchange, and the principal bankers, merchants, and public companies of the city of London, besides several of her Majesty's judges, the most eminent counsel and the reverend the clergy. Their cheapness and popularity have induced many unprincipled people to put forth imitations of the genuine article, which are equally useless to the purchaser, and disgraceful to the vender. The public are therefore cautioned, and respectfully requested not to purchase any as DEANE'S GENUINE TWO HOLE BLACK PENS, unless each pen is stamped, "G. and J. Deane, London-bridge," and the box, which contains exactly twelve dozen, has thereon a variously coloured label, inscribed,
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TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.
Apply at W. CLEAVE'S Timber Yard, Wilton-road, Pimlico late C. Moore and Son), and Great Smith-street, Westminster.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, at Old-Barge-Wharf, Upper Ground-street, Blackfriars, a large, very general, and well-seasoned stock of all kinds of Prepared Floor and Match Boarding, planed to a parallel breadth and thickness, fit for immediate use; also a great variety of machine-prepared mouldings, very accurately finished.
A. R., in calling the attention of builders and consumers, confidently presumes on being able to supply them on such terms as will ensure and merit their favours, &c.

T. ADAMS (from Byron and Co.), late S. Dare, MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Bricklayers' Arms. SEASONED FLOORING, MATCH-BOARDING FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery, Cut Deals and Scantling of every dimension, Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Pantile, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense (except timber). Sawing charged at mill prices. Very extensive Drying Sheds.

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TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.
Address to HENRY SOUTHAM,
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Gillingham-street, Pimlico.
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TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weigh-bridge and drawdock.—N.B. Depôt for Glass Pantiles.

SILCOCK and Co.'s PATENT PLANES may be had at the following places:—
Archer, 45, Goodge-street, Tottenham-court-road; Blyth, White chapel; Cock, 434, Oxford-street; Dean, 46, King William-street; Fenn, 105, Newgate-street; Holtzapfel and Co., 64, Charing-cross; and of all ironmongers and tool dealers in the United Kingdom.

STAIRCASES.—To Builders and Others, engaged in Building.

MR. THOMAS MITCHELL, Carpenter, &c., at 40, Brown's-lane, Spitalfields, begs to inform the Trade generally, that he continues to execute all kinds of Staircases and Handrails of every description, on very reasonable terms, in town or country. Persons having any of the above description of work to be done will find it to their advantage by applying to the above T. MITCHELL.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition, which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the Trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.
Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.
In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.
Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre.

TODD'S PATENT PROTOXIDE PAINT manufactured by CHAS. FRANCIS and SONS, CEMENT WORKS, NINE ELMS, LONDON.
The properties of this Paint are peculiar for preventing iron from oxidation, wood from decay, and masonry from damp; it neither cracks nor blisters with the hottest sun, and is therefore most valuable for Railways, Boilers, Steam, Gas, and Water-pipes; Hot-houses, Forcing-houses, and for Shipping. Its adhesion is so great to iron and wood, that the hardest friction will scarcely remove it. It prevents vegetation on stuccoed buildings, and is not affected by spray of sea-water.
PROTOXIDE PAINT is sold ground in oil, and, compared with white-lead, its property of concealing is as 75 to 50, so that one hundred weight is equal to one and a half of lead. It works well under the brush, and forms with oil an unctuous and cohesive mixture. If blended with other paints it has a softer tone than white-lead. For houses painted during occupation, it is most preferable, being perfectly innoxious.

By Her Majesty's Royal Letters Patent

WILKINS'S "SILENT" WATER-CLOSET.—To Architects, Surveyors, and Builders.
Gentlemen,—Your attention is respectfully invited to the above "Closet," the peculiar qualities of which are, that it is perfectly silent in the action of the Machinery and the supply of Water, and may be fixed in any convenient place in the House, without communicating the sound of a Water-closet to any of the adjoining Apartments, while it retains all that is useful in the ordinary Closets, it does away with the Ball Levers, Wire, Cranks, &c., which cause much of the noise to which the old closets are liable. The want of a Water-closet more suitable for the present mode of fixing them in the internal parts of Dwelling Houses and Office Apartments, has long been felt, and the benefit to be derived from one that is "Silent" in the action of the Machinery and supply of water, is sufficiently obvious to render unnecessary any lengthened comment in its favour.
This Closet is simple in its construction, the whole of the apparatus (including the trap), being completed between the floor of the room and the seat of the Closet, thereby rendering it quite easy to remove any noisy Closet and fix the "Silent" one in its place, without interfering without the trap, which is generally embedded between the floor and ceiling below the Closet. The "Silent" Closet is also clean, and so free from any effluvia, as to allow of its being fixed in any bed-room (where there is a convenience of fixing a pipe down the outer wall of the house) without occasioning the least unpleasantness whatever.
May be viewed Daily, and Orders taken at No. 96, Gower-place, University College, London.

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